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The Journal of FINANCE

Vol. XII SEPTEMBER 1957 *No. 3*

The Federal Home Loan Bank System and the Control of Credit
Gordon W. McKinley

The European Monetary Agreement, the European Payments Union, and Convertibility *Dallas Jones*

Growth Stocks and the Petersburg Paradox *David Durand*

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DECEMBER 28–30, 1957

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CURRENT QUESTIONS IN CONSUMER CREDIT

Chairman: MADELINE MCWHINNEY, Federal Reserve Bank of New York

Papers: "Did the Federal Reserve Study Answer the Question?"
HERMAN E. KROOSS, New York University

"Prerequisites for the Growth of Consumer Credit"
PETER G. FOUSEK, Federal Reserve Bank of New York

Discussants: (To be drawn from the audience)

DEVELOPMENTS IN THE MORTGAGE MARKET

Chairman: LEO GREBLER, National Bureau of Economic Research and Columbia University

Papers: "Effects of Monetary Policies on the Mortgage Market"
JAMES J. O'LEARY, Life Insurance Association of America

"Recent Institutional Arrangements in Mortgage Lending"
MORTIMER KAPLAN, Federal Housing Administration

Discussants: RAMSEY WOOD, Board of Governors, Federal Reserve System

NATHANIEL H. ROGG, National Association of Home Builders

THE OUTLOOK FOR THE MONEY AND CAPITAL MARKETS

Chairman: JAMES J. O'LEARY, Life Insurance Association of America

Papers: "The Outlook for Long-Term Funds"
ORSON H. HART, New York Life Insurance Company

"The Outlook for Short-Term Funds"
WESLEY LINDOW, Irving Trust Company

"The Outlook for Federal Reserve and Treasury Policy"
ROY L. REIERSON, Bankers Trust Company

Discussants: LEO GREBLER, National Bureau of Economic Research

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EFFECTS OF TAXATION

Chairman: E. GORDON KEITH, University of Pennsylvania

Papers: "The Effects of Estate Taxes on Business Structure and Practices in the United States"

HAROLD M. SOMERS, University of Buffalo

"The Effect of Taxes on Business Policies and Practices in Great Britain"

WALTER W. BRUDNO, Harvard University

"Some Investor Reactions to High Income Taxes in the United States"

DAN M. HOLLAND, National Bureau of Economic Research

Discussants: (To be arranged)

PENSION FUNDS AND THE CAPITAL MARKETS

Chairman: GORDON W. MCKINLEY, Prudential Insurance Company of America

Papers: "Investment Aspects of Pension Funds"

PAUL L. HOWELL, Columbia University and Twentieth Century Fund

"Sources and Uses of Capital Funds"

WILLIAM C. FREUND, Prudential Insurance Company of America

Discussants: SALLY S. RONK, Bankers Trust Company

JUDITH MACKEY, Life Insurance Association of America

ROGER F. MURRAY, Columbia University

JOINT LUNCHEON

AMERICAN FINANCE ASSOCIATION AND AMERICAN ECONOMIC ASSOCIATION

MONDAY, DECEMBER 30, 12:30 P.M.

Chairman: (To be arranged)

Speaker: (To be arranged)

Business Meetings of American Finance Association

Saturday, December 28

7:30 P.M. Meeting of Board of Directors of American Finance Association

Sunday, December 29

8:00 A.M. Meeting of Editorial Board of American Finance Association

4:30 P.M. Annual Business Meeting of American Finance Association

6:00 P.M. Meeeting of Incoming Board of Directors of American Finance Association

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Hotel	*Single*	*Double*	*Twin*
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*Barclay	9.00 up	12.00 up	
*John Bartram	4.50 up	7.50 up	8.00 up
*Belgravia	6.00 up		10.00 up
*Bellevue-Stratford	8.00 up	12.00 up	12.00 up
*Benjamin Franklin	6.00 up	9.00 up	13.00 up
*Chancellor Hall	5.00 up	7.50 up	7.50 up
*Drake	7.00 up	9.00 up	10.00 up
*Essex	4.00 up	7.00 up	8.00 up
*Robert Morris	5.00 up	7.00 up	8.00 up
*Sheraton	9.85 up	13.00	14.00 up
*St. James	4.75 up	6.50 up	7.00 up
*Sylvania	5.50 up	9.00 up	9.00 up
*Warwick	9.00 up	12.00 up	13.00 up
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Hamilton Court, 39th & Chestnut	4.00 up	5.50 up	6.00 up
Normandie Hotel, 36th & Chestnut	5.00 up	7.00 up	8.00 up
Penn Sherwood, 39th & Chestnut	5.75 up	10.00 up	10.50 up
Roosevelt, 23d & Walnut	6.00 up		10.00 up
Walnut Park Plaza, 63d & Walnut	5.00 up	8.00 up	8.25 up

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The Journal of FINANCE

Vol. XII SEPTEMBER 1957 *No. 3*

THE FEDERAL HOME LOAN BANK SYSTEM AND THE CONTROL OF CREDIT

GORDON W. MCKINLEY
Prudential Insurance Company of America

WHEN THE FEDERAL HOME LOAN BANK SYSTEM was first established, Congress designed it to serve somewhat the same purpose with respect to the savings and loan industry as that which the Federal Reserve System was originally intended to perform for the commercial banking industry. In the early years of the Federal Reserve System, the Federal Reserve Banks were not thought of primarily as agencies through which monetary influences could be exerted in an effort to control the level of business activity and prices. In fact, the original purpose of the Federal Reserve System was not to "control" at all, but to "accommodate." The System was designed to provide a pool of reserves available to member commercial banks, so that (*a*) funds could be moved geographically from areas of surplus to areas of scarcity, (*b*) funds could expand and contract with the seasonal needs of the economy, and (*c*) the money supply could vary (automatically, it was thought) with the "needs of commerce, industry, and agriculture."

In the subsequent evolution of the Federal Reserve System there has been a steady movement away from the original "accommodation" thesis toward the now generally accepted principle that the Federal Reserve should exercise a positive influence on the money supply in an attempt to achieve as high a level of business activity as is consistent with price-level stability. Since the Federal Home Loan Bank System resembles the Federal Reserve System in many

ways, and since both systems were originally created for quite similar purposes, it may logically be asked whether the evolution of the Federal Home Loan Bank System should not follow the same pattern as that established by the Federal Reserve System. More specifically, do the same reasons which led to the shift from "accommodation" to "positive influence" in the case of the Federal Reserve System apply also to the Federal Home Loan Bank System? Does the Federal Home Loan Bank System affect the total supply of money? If so, should the Federal Home Loan Banks exercise positive controls designed to achieve the same goals as the Federal Reserve System? These are important questions—important not just to the savings and loan industry, but to the whole economy.

There is a widely accepted belief in this country that, apart from the U.S. Treasury, the only other money-creating agency in our economy is the commercial banking system (including, of course, the Federal Reserve Banks). It is held that commercial banks can create (or extinguish) money in the form of checking accounts, and that while other financial institutions channel money from one use to another they do not actually change the total volume of the money supply. The economy is thus thought of as a closed monetary system, with variations in the quantity of money occurring only as the result of gold movements, changes in Treasury currency outstanding, or changes in commercial bank demand deposits. A corollary of this belief is that, since the Federal Reserve exercises substantial control over the ability of commercial banks to create money, it therefore also exercises substantial influence over the total money supply. Other financial institutions, and other government agencies such as the Federal Home Loan Banks, are said not to influence the quantity of money but merely to influence the direction of money flows.[1]

This article examines the following aspects of the traditional theory: First, is it true that commercial banks alone among private institutions have the ability to create money? Second, does the Federal Reserve at present exercise practical influence on all money-creating agencies? Third, do the Federal Home Loan Banks create

1. This is in fact the standard approach taken in monetary and credit textbooks. On the other hand, there have been references in the professional literature which indicate that some economists question this approach. See, for example, Albert G. Hart, *Money, Debt and Economic Activity* (Prentice-Hall, 1948), p. 137; Woodlief Thomas, "The Institutionalization of Savings," in Heller, Boddy, and Nelson, *Savings in the Modern Economy* (University of Minnesota Press, 1953), pp. 181–82; and John G. Gurley and Edward S. Shaw, "Financial Intermediaries and the Saving-Investment Process," *Journal of Finance*, XI (May, 1956), 260–63.

money, and if so should their policies be consciously co-ordinated with those of the Federal Reserve?

What Constitutes the "Money Supply"?

A great deal of the misunderstanding of the money-creating process in our economy comes from a failure to define more clearly what is meant by money. A simple, but workable, definition is that money is anything which is normally, consistently, and generally used as a store of value and/or as a medium of exchange. That is, it is what most people use for saving or for spending. Economists have long recognized that there is no distinct line between what is money and what is not money. Put in another way, everything has some of the attributes of money; there are varying degrees of "moneyness," and the extent to which anything is called money depends on the *degree* to which people use that thing either as a store of value or as a medium of exchange.

Although there is no hard-and-fast line between what is money and what is not money, certain things can generally be agreed upon as being so frequently and so widely used for spending or for saving that they can unquestionably be classed as money. In this group would fall all paper money and coin in the United States, and all bank accounts, including time deposits in commercial banks, and deposits and share accounts in savings banks and in savings and loan associations. Beyond this relatively "high-degree" money, another group of things could be assembled which sometimes serve as money. In this "medium-degree" group would fall government securities (the similarity to paper money is obvious), all private debt securities having high liquidity, etc. One group after another could thus be assembled, each serving the function of money but in successively less intense degree, so that the whole spectrum of "moneyness" would eventually extend over all things the possession of which enables the holder to command other goods and services in exchange.

It is obvious that for practical purposes agreement must be reached on the approximate *degree* of moneyness which is to be accepted as justifying the use of the word "money." The practical definition should include all those assets which people generally regard as being immediately available for spending purposes. This is a meaningful definition because what people themselves consider immediately available for spending purposes is in fact the sort of thing which will influence the volume of their spending and thus the

volume of business activity and the level of prices. From this point of view, it would seem ridiculous to define the money supply so as to include the demand deposits of commercial banks but not the time deposits of commercial banks. The possession of a balance in a time deposit obviously influences the spending behavior of the owner, whether or not he actually withdraws from that account.

It is sometimes held that since one cannot spend a savings deposit directly (that is, it is first necessary to convert it into something else), a savings deposit is not money. In reply to this argument, it should be pointed out that a demand deposit cannot be spent directly either. It should also be recognized that things do not have to be "in the process of being spent" to be money. A demand deposit is money even though not active, and so is a hoard of coins hidden under the mattress. Each is money because the owner considers it immediately available for spending. There is no question that the owners of savings deposit balances consider these as money available for spending at will. Nor is there any question that their willingness to spend (and thus influence business activity and prices) is affected by their possession of savings deposit balances, or any other liquid assets.

If, then, a practical definition of the money supply would include at the minimum all coin and currency and all bank deposits, whether time or demand and whether in commercial banks or other savings institutions, the next question is, through what agency and what process are these deposits created? Are they all created by commercial banks, or are there other financial institutions which can create money?

The Process of Money-Creation

An examination of the operations, and balance sheets, of various financial intermediaries will show that commercial banks are not at all unique in their ability to create deposits. For illustrative purposes, assume an example involving the creation of a new commercial bank and a new savings and loan association. In order to avoid consideration of the effect on the existing banking structure of the creation of these two new institutions, assume that the initial depositors (and, in the case of the commercial bank, the stockholders) have saved up a hoard of cash which they have been keeping in safe-deposit boxes. The depositors and stockholders do not, therefore, withdraw from deposits in other financial institutions but utilize cash on hand. The commercial bank and the savings and loan

association each take in $1,100,000 in cash. To simplify the example further, assume that all the commercial bank's capital is invested in bank building and equipment, and a similar amount is so invested by the savings and loan association.

Although slightly different terminology is used in the statement of condition of these two institutions, their statements will at this stage be identical:

Resources		Liabilities	
Cash	$1,000,000	Deposits (or savings accounts)	$1,000,000
Bank building	100,000	Capital (or savings accounts)	100,000
	$1,100,000		$1,100,000

It is clear that up to this point no money has been created by either the commercial bank or the savings and loan association.[2] The cash taken in by these institutions had already been created by the federal government. Of the $1,100,000 received by each, $100,000 has been returned to circulation through the purchase of bank building and equipment. With respect to the remaining $1,000,000, the two institutions have simply exchanged one type of money (coin and currency) for another type of money (deposit accounts).

As soon as the two financial institutions begin to make loans and investments, however, new money will be created—and it will be created by *both* types of institution. Assume that no new deposits are received, but that both the commercial bank and the savings and loan association make loans amounting to $900,000. Assume that these loans are drawn against in full. The balance sheets of the two institutions will again be identical:

Resources		Liabilities	
Cash	$ 100,000		
Loans	900,000	Deposits (or savings accounts)	$1,000,000
Bank building	100,000	Capital (or savings accounts)	100,000
	$1,100,000		$1,100,000

Both the savings and loan association and the commercial bank continue to offer to their creditors the right to withdraw $1,000,000. That is, the deposits—which are part of the money supply—have not been reduced. But $900,000 in cash has been released to circulation by each institution. It is clear that the money supply is now $1,800,000 greater than before the loans were made.

Whenever, in their subsequent operations, either of these two

2. Actually, there has already been some money creation in connection with the purchase of bank building, but for simplicity this may be ignored.

institutions acquires a non-cash asset, such as a mortgage, government security, or other promissory note, the effect will be invariably either to (*a*) release part of their cash to circulation without changing the amount of their deposits, or (*b*) increase their deposits without releasing any of their cash. In either of these two cases, the money supply available for saving or spending is larger than it was before the non-cash assets were acquired. The two financial institutions can continue to acquire non-cash assets until their cash has been reduced, or their deposits raised, to the point where, because of either legal or self-imposed limits, the ratio between cash and deposit liabilities has reached a minimum. In practice, the savings and loan association can push the money-creating process a bit further than the commercial bank since it is permitted to have a lower ratio of cash to deposit liabilities.

Now, it is true that further money-creation can now continue elsewhere in the financial system of the country. If cash is released by either financial institution, this cash may end up in some other financial institution—perhaps another commercial bank or another savings and loan association. This lodgement of cash will raise the cash to deposit ratio of these two financial institutions, and permit them to acquire more non-cash assets, and so on. Although this further creation of money may occur, and in fact probably will occur, it is clear that it is not a necessary condition to the creation of money by the initial commercial bank and savings and loan association in our example. Both the commercial bank and the savings and loan association have created money, and by an identical process.

It should also be clear that no one can foretell the future path which will be taken by this new money created by our two institutions. If cash is released by either of them, this cash may next be lodged in a commercial bank, or it may go to a savings and loan association, or to some other type of financial institution. It is quite possible that *all* the subsequent money creation associated with the initial money created in our example may take place entirely within the savings and loan industry, or on the contrary it could occur entirely within the commercial banking system. The relative rate of growth of these two industries will of course be one of the factors determining which is likely to participate most heavily in the subsequent money-creation process.

Thus far, the discussion of the money-creating process has been confined to commercial banks and savings and loan associations. The process actually operates in exactly the same way in savings banks.

And extension of the principle to other financial institutions will show that the ability to create money is limited only by the rather vague line between what is money and what is not money. As a general principle, it is clear that any financial institution (or, in fact, any individual or non-financial institution) can create money provided that (*a*) a part of the liabilities of that institution are generally and usually considered by its creditors as money, and (*b*) the institution maintains less than 100 per cent cash reserves against those liabilities.

Commercial banks are therefore not the only private agencies which can create money. The process of deposit expansion on the basis of fractional reserves is not only not unique with commercial banks, but there are many institutions which can carry the process much farther than can commercial banks.

Since money-creation may occur throughout our economy in all sorts of institutions, why is it, then, that popular discussion refers to commercial banks as the only money-creating agencies? The reason is a practical, rather than a theoretical, one. It happens in practice that most people consider commercial bank demand deposit liabilities as having a greater *degree* of moneyness than the liabilities of other institutions. Most people use demand deposits more frequently than other forms of money, so that demand deposits have a greater velocity of circulation than time deposits, or than savings accounts in savings and loan associations. Commercial banks are therefore not unique in their ability to create money, but only in the fact that the money they create is very high-potency money. The money-creating distinction between commercial banks and other institutions is therefore not one of kind, but one of degree.[3] The important characteristic of a commercial bank is not its ability to expand dpeosits on the basis of fractional reserves, but the degree of check-clearing through its deposits once they have been established.

Control of the Money Supply

In the light of this discussion of the money-creating process, what conclusions can be drawn regarding the control of the money supply? Specifically, should the federal government attempt to exercise more

3. An example of very "low-degree" money is that created by a mutual fund. Shares in a mutual fund can be turned into cash at the will of the shareholder. They may, therefore, be considered by the shareholder as immediately available for spending and undoubtedly will have some influence on his willingness to spend. Since the mutual fund maintains a very small fractional cash reserve, it is clear that the fund has created money, although money which occupies a very low place in the spending plans of the shareholder.

direct influence over all agencies which create money in any degree?

The difficulty of such a task is apparent from the preceding discussion. In order to exercise direct influence over all money-creation, the government would at the minimum have to control all debt, since every extension of debt, whether by individuals or by institutions, involves the creation of money.[4] Fortunately, this virtual control over all economic activity is not necessary in order to exercise effective influence over the money supply. In the first place, the money created by commercial banks has so much higher a velocity that it alone accounts for most of the variation in spending. In the second place, the effect of credit control techniques now exercised by the Federal Reserve is by no means confined to commercial banks.

Present Federal Reserve credit control techniques exert pressure on all types of money-creation throughout the economy principally because the "reserves" of non-bank financial institutions are maintained in the form of deposits with the commercial banking system. Just as the ultimate source of reserves for commercial banks consists of the deposit liabilities of the Federal Reserve Banks, so the ultimate source of the reserves of non-bank institutions consist of the deposit liabilities of the commercial banks. The money supply may therefore be thought of not simply as a single inverted pyramid, but as two inverted pyramids one on top of the other. The Federal Reserve stands at the base of the lower pyramid and provides ultimate liquidity to the whole monetary system. By controlling the volume of their own deposit liabilities, the Federal Reserve Banks influence not only the deposit liabilities of the commercial banks but also the liabilities of all those institutions which use the deposit liabilities of the commercial banks as cash reserves.

As an illustration, assume that the Federal Reserve exerts sufficient pressure on member bank reserves so that the normal growth of deposit liabilities of the commercial banks is halted, and the total of these deposit liabilities is held approximately constant over the course of a year. This means not only that commercial banks are unable to create additional money, but also that the reserves of the whole non-bank community are held constant. If the non-bank community is already operating with minimum reserves—as will probably be the case under the assumed Federal Reserve policy—then it will be extremely difficult for the non-bank sector *as a whole* to expand credit further. Individuals and institutions in the non-bank

4. It is, for instance, obvious that an expansion in trade credit constitutes an expansion in the money supply. Or, for those who prefer a different terminology, the expansion in trade credit "economizes in the use of the existing money supply."

sector will no longer be able to gain reserves through an expansion in the total of such reserves; they now must bid these reserves away from alternative holders. The reserves of individuals as a group can expand only if the reserves of non-bank institutions as a group decline. A given industry, such as the savings and loan industry, can gain reserves only at the expense of other industries or individuals. The ability of the non-bank sector of the economy to expand credit under these circumstances is obviously quite different from the situation obtaining when Federal Reserve policy is permitting an expansion in the deposit liabilities of the commercial banks, and thus in the cash reserves of the non-bank sector.

Now, it is true that there are great differences in the degree to which different individuals and institutions can create money and in the degree to which they make use of this money. It is quite possible, therefore, that even though the volume of reserves available to the non-bank sector as a whole remains constant there may be shifts in the ownership of these reserves which will cause either an expansion or a contraction of credit in this sector. If reserves held by creators of "low degree" money are lost to creators of relatively "high degree" money in the non-bank sector, then there can be an expansion of credit within this sector even though the total of its reserves remains the same. But this, of course, is also true within the banking sector of the economy. It is quite possible for the commercial banking system to create money, even though its reserves remain constant, through a shift in the relative proportion of demand and time deposits of the commercial banks or through a shift between the relative size of the deposit liabilities of central reserve city, reserve city, and country banks. Such shifts are constantly occurring, the year 1956 being a notable example.

Present Federal Reserve credit control techniques exert pressure on non-bank institutions not only by influencing the volume of cash reserves available to the non-bank sector of the economy, but also by acting directly on the price of securities held by non-bank institutions. The ability of financial institutions to make new loans is dependent primarily on the volume of their normal cash flow, but is also greatly influenced by their willingness to unload existing assets. A tight money policy on the part of the Federal Reserve is very promptly reflected in declining prices for government securities, so that financial institutions become reluctant to take the loss which would be necessary in order to augment their normal cash flow through sales of Governments. The fact that fluctuations in govern-

ment security prices impose strong pressures on the lending policies of financial institutions is supported not only by the opinions of lending officers but also by clear statistical evidence in studies made by the Federal Reserve Board.

Money-creation outside the commercial banking system is therefore not by any means free of Federal Reserve influence. Through its influence on the cash reserves of the non-bank sector, and through the effect of its policies on the price of debt instruments, the Federal Reserve Board can and does place strong and effective pressure on all types of financial institutions.

The Federal Home Loan Bank System

It has already been pointed out that savings and loan associations create money, though money which does not possess as high a velocity as that created through commercial bank demand deposit accounts. It has also been pointed out that Federal Reserve credit controls exercise strong influence on the money-creating capacity of all financial institutions, including savings and loan associations.

The existence of the Federal Home Loan Banks, however, introduces a complicating factor. Even though the Federal Reserve can exert heavy pressure on all lending institutions including savings and loan associations, it is also true that the savings and loan associations can turn to the Home Loan Banks during periods of tight money and augment their normal cash flow through borrowing. Does this privilege remove these associations from effective influence by the Federal Reserve? In other words, can it be claimed that the Federal Reserve exerts practical pressure on the total money supply when a segment of the lending industry is able to tap the reserves of the Home Loan Banks? Do the Home Loan Banks themselves create money, and may their money-creating activities not offset the efforts of the Federal Reserve to control the supply of money?

A part of the lending and investing operations of the Federal Home Loan Banks does not involve the creation of new money. The Federal Home Loan Banks secure a portion of their funds through the sale of consolidated debentures in the open market. These funds are then made available to borrowing savings and loan associations. The procedure is thus not one of money-creation but rather of the channeling of funds from one part of the capital market to another part. The Federal Home Loan Banks also secure funds from member subscriptions to their stock. These funds may form the basis for

loans to savings and loan associations and, as in the case of debenture sales, do not involve the creation of new money.

There is, however, an important part of the operations of the Home Loan Banks which does involve the creation of money. The Federal Home Loan Banks, like the Federal Reserve Banks, accept deposits from members, and since the Home Loan Banks maintain cash reserves amounting to only a small fraction of these deposit liabilities it is quite clear that this portion of their operations involves the creation of money.

Although the Home Loan Banks do create money, there are nevertheless significant practical differences between their operations and those of the Federal Reserve Banks. The basic distinction between Federal Home Loan Bank operations and Federal Reserve Bank operations can best be brought out by considering what it is about the Federal Reserve Banks which gives them their unique effect upon the money supply.

Money is created by the Federal Reserve Banks in exactly the same way as by private commercial banks. But the money-creation activities of the Federal Reserve Banks are more important than those of any private commercial bank for the following reasons: (1) The Federal Reserve Banks, considered as one, are much larger than any single commercial bank, so that their operations have a heavier impact. (2) The Federal Reserve Banks do not operate close to their maximum money-creating capacity as do private commercial banks. An individual commercial bank attempts to keep its cash to deposit ratio as low as is deemed prudent in good times and in bad, since cash does not earn money. The Federal Reserve Banks, not being under the same pressure to show earnings, normally operate in a position which enables them at all times to move in either a money-creating or a money-extinguishing direction. In other words, they have not already "used up" their money-creating capacity as private banks normally have. (3) The Federal Reserve Banks can create money not only in the form of deposits but in the form of paper money, so that there is no practical limit to their money-creating capacity.[5]

It is the characteristics mentioned above which give the Federal Reserve Banks their unique impact on the money supply. And in

5. A further characteristic sometimes said to be unique with Federal Reserve Banks is that the money they create is higher velocity than any other in our credit system. Something may be said for this argument, but it should be recognized that a private commercial bank creates exactly the same kind of super-high-velocity money for its correspondent banks.

each of these characteristics the Federal Home Loan Banks are quite different from the Federal Reserve Banks: (1) The Federal Home Loan Banks are large, but not as large as the Federal Reserve Banks, nor even as some private commercial banks. (2) The Federal Home Loan Banks, like private commercial banks, normally operate near the limit of their money-creating capacity, that is, they maintain a relatively low cash reserve. If they should have a low demand for loans their funds are invested in Governments, the latter investment creating money just as effectively as loans. (3) The Federal Home Loan Banks cannot create paper money, so that they do not have unlimited money-creating capacity as do the Federal Reserve Banks.

From the foregoing analysis it is apparent that the Federal Home Loan Banks occupy much the same position in our money-creation mechanism as do large private commercial banks. Federal Home Loan Banks create money as do private commercial banks, but like the latter they hold themselves at all times close to the upper limit of their money-creating capacity and do not vary their money-creation in accordance with a planned policy designed to affect the total money supply. They are passive, rather than active, agents in influencing the money supply.

It is true that the Federal Home Loan Banks *could* become agents for the conscious control of the money supply. But so could any large private commercial bank. The fact is that, as they are now operated, the Federal Home Loan Banks do not exercise the same functions as the Federal Reserve Banks and, for considerations of broad monetary policy, may be considered as being similar to large private commercial banks. In fact, the Federal Home Loan Banks actually exercise less influence on the volume of money than do large private commercial banks because a good portion of the deposits created by the Home Loan Banks are time deposits and are thus a lower-degree money than the checking accounts created by commercial banks. Some Federal Home Loan Banks, notably the New York Bank, maintain demand deposits subject to check, so that these Banks have taken on the characteristics of commercial banks. But so long as they continue to follow the "full investment at all times" policy they are not credit control agencies and may be considered simply as part of the commercial banking system.

Even though the Home Loan Banks do not exercise significant influence over the over-all quantity of money, they have nevertheless on occasion taken actions which, whether so designed or not, have in effect constituted a form of selective credit control. The Home

Loan Banks have in recent years taken steps designed to encourage, or at other times to discourage, member borrowing. Because of the full investment policy of the Banks, these actions have not affected the total quantity of money, but they have affected the channeling of money between different capital markets. If these actions have stemmed from concern for the soundness or liquidity of member associations, there is no question that they fall within the prerogatives of the Home Loan Banks. If, however, they have been designed to influence the mortgage market, or the rate of residential construction, there is considerable question whether the Banks are operating within the intent of Congress. Certainly, a problem immediately arises as to which agency, the Federal Reserve Board or the Home Loan Bank Board, is to establish monetary policy.[6] There is also the further question whether it is desirable for the Home Loan Banks to exercise selective credit controls when Congress has not seen fit to give this power to the Federal Reserve Board. And there is finally the question of discrimination against one particular type of lending institution, while other lending institutions are left free to operate in the mortgage market.

Summary

(1) Commercial banks are not the only private agencies able to create money. The expansion of deposits relative to fractional reserves is not at all unique with commercial banks, and continually occurs outside the commercial banking system. (2) The really significant aspect of commercial bank money-creation is not the fractional reserve system at all, but rather the fact that a demand deposit serves as a check-clearing medium. The unique capacity of commercial banks is therefore that they create *high-degree* money which is capable of expansion and contraction in the degree of its use even though the absolute volume of this money may remain constant. (3) Even though money-creation is not confined to commercial banks but occurs throughout the economy, this does not mean that present Federal Reserve credit control techniques are ineffective. Federal Reserve credit controls exert a strong and immediate pressure on non-bank financial institutions, partly because the "reserves" of non-bank financial institutions are maintained in the form of deposits with the commercial banks, and partly because Federal Reserve operations affect the price of assets held by non-bank financial insti-

6. Although there have been occasions when it has seemed that the Home Loan Bank Board was working at cross-purposes with the Federal Reserve Board, there is normally a close working relationship with the Federal Reserve Board and with the Treasury.

tutions and so affect the willingness of these institutions to move from one type of asset to another. (4) A part of the operations of the Federal Home Loan Banks involves simply the channeling of funds from one part of the capital market to another; another part of their operations involves the creation of money of "moderate-degree" velocity, i.e., time deposits of member associations; and a third part of the operations of some of the Home Loan Banks involves the creation of "high-degree" money, i.e., demand deposits of member associations. (5) Because the Home Loan Banks operate on the relatively full investment principle at all times, they have no more effect on the over-all quantity of the money supply than would a similar number of fairly large private commercial banks. That is, in practice the Home Loan Banks do not conduct their operations so as to exercise conscious influence on the over-all money supply. Significant influence over the money supply can be exercised only if the controlling agency is willing, as are the Federal Reserve Banks, to operate most of the time in a partially invested position. (6) Although the Home Loan Banks do not significantly affect the total money supply, they have taken actions in recent years which may have been motivated by a desire to exercise selective control over credit flows. If this has in fact been the intent of these actions, such use of their powers appears to be beyond the compass of the legislation establishing the Banks and suffers also from the difficulty of coordination with Federal Reserve policy.

THE EUROPEAN MONETARY AGREEMENT, THE EUROPEAN PAYMENTS UNION, AND CONVERTIBILITY

DALLAS JONES*

WHILE THE INAUGURATION of the European Payments Union (EPU) marked the beginning of a new phase in European trade and payments developments, and while the operation of the EPU has in the opinion of many been an outstanding success, its exact status as a temporary or permanent institution has never been fully clear. To some extent this depends on whether or not the EPU can be adapted to trade and financial practices which are more "normal," more "orthodox," than those prevailing at the time it was established.

Substantial progress has been achieved toward the accommodation of more orthodox trade and payments practices. The magnitude of automatic credit and the degree of discriminatory elements in the operation of the EPU have been reduced by changes in the fractional settlement mechanism. The initiation and expansion of the multilateral arbitrage scheme and the so-called Hague Club arrangements introduced revolutionary changes in the components involved in the bookkeeping procedures which precede and underline EPU settlements. These are now influenced by currency transfers under Hague Club arrangements (payments in third country currencies), and, to a large extent, by the amount of currencies bought and sold in the private market, after arbitrage operations have taken place.

The need to lay the groundwork for more extensive adjustments was emphasized when in March, 1954, the British posed the problem of sterling convertibility before the OEEC. Subsequent negotiations culminated, at least temporarily, in the conclusion of the European Monetary Agreement. It would appear that the outstanding, if not most controversial, negotiating issues must have been the preservation of the OEEC trade liberalization program and the elimination of EPU provisions preventing wider exchange rate margins and

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those preventing the withholding from settlement of current balances held in the currencies of other participating countries.

I. The European Monetary Agreement

The European Monetary Agreement (EMA), concluded on August 5, 1955, provides for the establishment and operation of a European Fund and a multilateral system of settlements.[1] Particularly as the description below employs the indicative, rather than the conditional, mood, it is perhaps useful to stress that the agreement is a standby arrangement. It is the presently designated successor to the EPU, to become effective when some OEEC member countries have made their currencies convertible. It is held deserving of study for the mechanism it proposes, and as an expression of the intention of OEEC countries to provide, within a common institutional framework, for the coexistence of both convertible and inconvertible currencies, and to continue trade liberalization among themselves after, as well as before, some member countries have made their currencies convertible.

THE EUROPEAN FUND

The Fund, operating with a capital of $600 million, will provide its members with credit in order to aid them to withstand temporary over-all balance of payments difficulties in cases where these endanger the maintenance of the level of their intra-OEEC trade liberalization measures. These credits are to be expressed in gold and of a short-term and non-automatic character. General criteria and conditions governing the granting of credit by the Fund are embodied in the agreement. The final arbitrator for this, including the financial and technical terms of each credit, will be the OEEC. In reaching its judgments, the OEEC will consider the manner in which the country concerned is complying with any recommendation the OEEC may have made to it with regard to its internal as well as external financial and economic policies, and the degree to which its trade is subject to controls and restrictions. On the other hand, the OEEC may examine in what way the difficulties of the country concerned may be alleviated by measures taken by other member countries and may make recommendations to them.

1. The description in this paper of the EMA is largely based on two August, 1955, publications of the OEEC (Paris): *European Monetary Agreement;* and a memorandum on that subject by the OEEC secretary-general.

THE MULTILATERAL SYSTEM FOR SETTLEMENTS

This system is designed to provide an institutional framework for continued co-operation in intra-EPU exchange matters. It will not involve the granting of credit—which is the responsibility of the Fund—except through the interim finance mechanism which is for a maximum period of one month. The most significant aspects of the settlements system are discussed below.

Exchange rate margins.—Each country will fix the buying and selling rates for gold the U.S. dollar or some other currency for the purpose of limiting the fluctuation of its currency. It is only specified that these margins should be as moderate and stable as possible. Each country will be entirely free to buy or sell its currency either on its own or any other market, at any point within the margins. But, with the exception of balances arising out of bilateral payments agreements, the monthly settlements clearing through the system will always be at either the declared buying or selling rate, i.e., at one of the two extremes.

Interim finance.—Between settlements each member country will be under obligation to place amounts of its currency required by any other participating country at the latter's disposal within agreed limits. The borrowing country will have the right to repay in the currency borrowed at any time between settlements. If this is not done, payment through the clearing is required, in dollars at the lending country's buying rate for dollars, i.e., the rate most disadvantageous to the borrower.

Bilateral payments agreements.—Ordinarily, all balances under these through which credit is made available for settlement of current payments must be reported for settlement and will be calculated in U.S. dollars at the rate agreed upon in the bilateral accord. However, the OEEC may make recommendations concerning a bilateral payment agreement as to its suitability in terms of EMA objectives, and if effect is not given to these recommendations the OEEC may decide that these balances will be excluded from the settlement.

Balances held in the currency of another participating country.—These also include balances arising under *ad hoc* arrangements between central banks to supplement interim finance. These balances may, at the option of the holder, be reported for settlement at the effective selling rate for dollars in terms of the currency held, i.e., at the rate most disadvantageous to the holder.

Monthly settlement.—The bilateral debts and claims brought into

the monthly settlement are compensated and converted into single net claims on, or debts to, the Fund. Settlement of these net claims and debts will be in U.S. dollars, and this will discharge each bilateral debt and claim of which the final settlement is composed. The settlement procedure provides for settlements which *must* and those which *may* be reported for settlement. Left-over interim finance and balances on accounts kept under bilateral agreements approved by the OEEC must be reported for settlement; balances held in the currency of another participating country may be reported; and other certain conditions balances under bilateral agreements not approved by the OEEC may not be settled. It is important to note that in each circumstance, except balances arising out of bilateral agreements, clearing is at the rate which tends to discourage recourse to the settlements mechanism except as a last resort. The settlements system is, thus, a clearing of last resort.

II. The European Monetary Agreements and the European Payments Union

It is the purpose of this section quite briefly to relate the operation of the EMA, in its most significant aspects, to that of the EPU. For purposes of clarity it is the present operation of the EPU,[2] not the possible operation of it, that is considered in this section.

Credit.—The large majority of credits under the EPU are automatic, through the fractional gold-credit facilities of the settlement mechanism. Credits to be extended by the EMA Fund, on the other hand, are to be entirely discretionary. Further, they are to be amortized by the recipient within two years after the credit is issued, and credits are to be financed out of the Fund's capital and not, as in the case of EPU, by what is in effect a redistribution of credit simultaneously granted to the Union by creditor member countries. A final and perhaps significant difference in the credit-granting procedures of the EMA Fund is that these are explicitly for the purpose of withstanding temporary *over-all* balance of payments difficulties in cases where these endanger the maintenance of the level of intra-OEEC trade liberalization measures.

2. Descriptions in this paper of the EPU mechanism are largely based on the following OEEC publications: (1) *Agreement for the Establishment of a European Payments Union* (Paris, June 30, 1954), (2) *Supplementary Protocols Nos. 6 and 7 Amending the Agreement for the Establishment of a European Payments Union* (Paris, June–July, 1955), (3) the third and fifth annual reports of the EPU Managing Board (Paris, September, 1953, and January, 1956).

EXCHANGE RATE MARGINS

Under EPU arbitrage operations which were introduced in May, 1953, and which are voluntarily entered into, there may be a swing in rates of .075 per cent. Under the EMA these margins will no longer be uniform and are not subject to any specific, agreed limit. It appears clear that they will be wider than the margin permitted by the EPU.

Monthly settlements.—Under the EPU, all monthly central bank balances at the end of each accounting period must be reported and cleared through the settlement mechanism. On the other hand, the EMA permits certain of these balances to be withheld. Also, conversion of balances into a common unit of account for the purpose of compensation and settlement under the EMA will not usually take place at par, as under the EPU, but at the extremes of the exchange rate margins—in such a manner as in each case to discourage recourse to the clearing. In actual practice, the EMA clearing mechanism is not likely to be used to any major extent. Finally, settlement under the EMA will be a 100 per cent dollars, rather than a fractional ratio of gold and credit, as under the EPU procedures. This latter is complementary to the change from automatic to discretionary credit.

III. The European Monetary Agreement, The European Payments Union, and Convertibility

In this section it will be assumed that one or more OEEC member countries has made its currency convertible. No attempt will be made to define the many precise forms which convertibility could take.[3] Rather, emphasis will be on the likelihood that convertibility—of an OEEC currency—will prove in practice to be of changing status, varying in degree in accordance with international payments conditions. On the assumption that when general prosperity prevails, and there are no serious international payments problems, especially among major trading countries, any reasonable approach to convertibility will be workable, this study will concentrate on convertibility under less favorable circumstances—when serious difficulties induce a country to modify, partly or fully, its convertibility policy. The comments below will consider, on the basis of these assumptions, the relative advantages and disadvantages of (1) "going it alone"—

3. For one discussion of these, see Raymond F. Mikesell, *Foreign Exchange in the Post-war World* (Twentieth Century Fund).

withdrawal of EPU from the scene without the substitution of any other institution for it, (2) maintaining the EPU in its present form, and (3) substituting the EMA for EPU in its present form. Alternatively, one might consider as a possible third category the continuation of the EPU in modified form, for this clearly would include the EMA. The EMA, however, is singled out below as a third consideration in order to focus attention on it as a measure which has received formal agreement.

At first glance it may appear striking that in the discussion below consideration is not given to the International Monetary Fund as an institution operating either in the absence of a European institution or in co-ordination with—or in supervision of—special European efforts. This by no means reflects indifference to IMF efforts, achievements, and possibilities; it reflects an endeavor to restrict the subject of this paper to manageable proportions.

ADVANTAGES AND DISADVANTAGES OF A NON-INSTITUTIONAL APPROACH

In the absence of the EPU or a substitute for it countries with convertible currencies would have greater freedom of choice as to whether to discriminate or non-discriminate on a world-wide basis, assuming there would be no OEEC trade liberalization commitments. However, even should the convertible country attempt to avoid discrimination, and irrespective of the desirability or undesirability of this under various conditions, in the absence of a strong and effective institution other countries at some stage would appear almost certain to discriminate against the convertible country, for its currency would have become as "hard" as any in the world. This is a danger facing any country placing its currency on a convertible basis. And discrimination against it would almost certainly lead the convertible country to discriminate on its own part.

Meanwhile, under varying payments conditions, other motives would be acting on the convertible country. With freedom of choice —i.e., in the absence of firm commitments by the convertible country and in the absence of the threat of unified retaliation by its major trading partners—the convertible country under pressure of severe payments problems might have relatively easy recourse to trade and payments restrictions as a "corrective." As mentioned above, strong pressures would exist for the convertible country to apply these restrictions on a discriminatory or even a bilateral basis in order to prevent excessive demands for conversion and thus to maintain

convertibility of the "mere formality" type. In either event—restrictions initiated by non-convertible or convertible countries—a return to some form of bilateralism in intra-OEEC trade would be open to each country as perhaps a more convenient corrective than monetary, fiscal, and other more orthodox measures.

In the absence of a co-operative, institutional approach, restrictions imposed and discrimination practiced are likely to spread rapidly throughout the system. For restrictions applied by one country affect unfavorably the reports of its trading partners, raising payments problems which they, in turn, are likely to approach by recourse to further restrictions. This process may well lead to a downward spiral in the level of world trade, if not world economic activity. Further, such a wave of restrictions could lead to a complementary spiral of bilateralism.

Lastly, the absence of either the EPU or the EMA would mean the loss to the international system of that amount of liquidity provided through EPU automatic and special assistance credits or by EMA discretionary credits.

ADVANTAGES AND DISADVANTAGES OF EPU APPROACH

As indicated immediately above some additional liquidity is provided to the system through the means of EPU credits. The usefulness of large-scale EPU automatic credits under conditions of convertibility, however, is subject to serious question. But the use of EPU special assistance credits could be developed to offset a decline in automatic credits.

Among the major contributions of the EPU, under conditions of convertibility, would be (1) its continued assurance of the multilateralization of payments between member currencies through currency transferability not only of convertible but also of inconvertible currencies; and (2) its continued fostering of the expansion of intra-EPU trade liberalization and action to prevent a contraction in this program. By these means, it has provided, and would tend to continue to provide, among member countries, full multilateralism in trade (non-discrimination) and payments (transferability). The payments provisions have eliminated balance of payments incentives for discrimination among members; the trade liberalization measures have tended to deny access to trade restrictions as a means of discrimination among member countries on trade incentives. Thus the EPU has followed the principle, that removal of restrictions on trade and on payments should go hand in hand.

EPU success in fostering trade liberalization among its members and its action to prevent contraction in this program has been built on the process of simultaneous reciprocity (expansion) and the withholding of retaliation (prevention of contraction). In doing so, it has taken a lesson from inter-war experience: that no single country is likely to be in a position to relax restrictions without knowing in advance the policies to be followed by its major trading partners. Thus, through forums provided by the OEEC and the EPU, member countries have been able to plot step-by-step advancement, more or less in unison, toward further liberalization of trade within the group. An important aspect with respect to this has been the willingness of creditor members to advance further and more rapidly into liberalization than extreme debtors.

Had the OEEC-EPU trade liberalization program relied exclusively on advancement toward less restrictions more or less in unison, it would have been only a one-sided program, for the problem would have remained of maintaining a high level of liberalization in face of adversity experienced by one individual member. This has been overcome by the withholding of retaliation by other member countries when one or a small number of member countries are forced temporarily to reduce the extent of liberalization. Thus when a member country must reduce the extent of its liberalization of intra-EPU trade, this is carried out on a non-discriminatory basis within the system. The grounds for retraction of liberalization by the country in difficulty and the corrective measures being adopted by it are judged within the OEEC-EPU forums, and, when justified, retaliation on the part of other member countries is withheld. But pressure is on the retracting member to return to the multilateral level of liberalization, for retaliation is only withheld to the extent that, and for as long as, other member countries are satisfied that no abuse to the system is being practiced.

The trade liberalization aspect of the EPU thus offers member countries placing their currency on a convertible basis reasonable assurances against discriminatory trade practices on the part of other member countries, and the payments provisions of the EPU would *tend* to eliminate payments incentives for this. This is highly important in view of dangers pointed out under the discussion above on convertibility in the absence of the EPU or the EMA. It could well be a deciding factor, particularly for certain smaller major trading member countries whose existing balance of payments positions might otherwise justify convertibility, but who would be unable effec-

tively to retaliate against discrimination designed to permit the discriminating countries, by restricting imports from convertible countries, to accumulate the convertible currency with a view to converting it into dollars. The advantages of numbers among convertible countries, especially in the early stages of convertibility, in relation to possible runs on any one convertible currency are obvious. Further, a convertible country forced to retreat from the agreed level of intra-EPU trade liberalization is assured, within limits, against retaliation from other member countries.

While under present conditions of inconvertibility on the part of EPU member currencies the payment provisions of the EPU eliminate payments incentives for discrimination in intra-EPU trade, under conditions of convertibility of some member currencies these provisions have been referred to above as having a *tendency* to eliminate payments incentives to discriminate. This reflects a new problem which would arise on the advent of convertibility: with the present EPU arrangements of fractional settlement and automatic credits member countries might withhold earnings of a convertible currency from the EPU clearing and exchange the convertible currency in the market for dollars. In this manner member countries would be assured of 100 per cent dollar transferability rather than 75 per cent, as under the present fractions settlement of the EPU. This problem would be eliminated if EPU settlement should be on or very near a 100 per cent gold or dollar basis, or if some other method were found to prevent siphoning off earned convertible currencies from EPU clearings.

THE ADVANTAGES AND DISADVANTAGES OF THE EMA WITH RELATION TO THE EPU

The 100 per cent dollar settlement—discretionary credit effect.—Taken by itself, the 100 per cent dollar settlement provision of the EMA should eliminate any preference of member countries to exchange earnings of convertible currencies on the market for dollars, rather than clearing them through the settlement mechanism. As pointed out above, however, other provisions of the EMA tend to discourage recourse to the settlements mechanism. Nevertheless, on balance it does not appear likely that there would be any abnormal incentive to exchange convertible EPU currencies for dollars as such, at least so long as confidence in the system persists.

The 100 per cent dollar settlement provision would significantly go further than its effect on the exchange of earned EPU convertible

currencies for dollars: it would eliminate any payments incentives for member countries to discriminate against the non-EPU world. Finally, it should be noted that 100 per cent dollar settlement would reduce the liquidity provided to the system were it not for the creation of the Fund and its powers and means to extend discretionary credit.

Commercial policy.—With respect to intra-EPU trade liberalization, the differences between the EPU and EMA are largely those of accent and emphasis. It would appear that escape from intra-EPU trade liberalization commitments could become less difficult under the EMA. Under the EPU, the basic justification for this is a deficit in intra-EPU balance, though in fact the status of international reserves could be considered. Under the EMA, more emphasis appears to be on the over-all position of the member country involved. While obligations to the OEEC-EPU by member countries might continue to be greater than those involving non-EPU trade, the incentives in the system might work in the opposite direction. As in each case—payments to EPU member countries and to non-EPU countries—100 per cent convertible currency payment on the balances would be involved, the incentive would tend to be on importing from the least expensive market. In the end, much would probably depend on the EMA Fund's credit policy, but on balance the EMA would appear to tend toward less over-all discrimination both with respect to incentives and escape from OEEC trade liberalization commitments.

Exchange rate margins.—The wider exchange rate margins which are possible under the EMA would offer some real advantage to the convertible country in the form of additional flexibility. On the other hand, the range and lack of uniformity in these margins involve rather obvious disadvantages, such as uncertainty and the possibility of manipulation to gain competitive advantage for exports and to expand international reserves. Even a margin of, say, 3 per cent each way would, if practiced by two member countries, permit a fluctuation of not just 6 per cent—which would be possible for any one currency with all other rates remaining the same—but a total fluctuation of 12 per cent between two currencies moving from one set of two opposite extremes to the other. While all member countries may not establish margins this wide, there might be incentives for all member countries to adopt the widest margins established by any one member, in order to place themselves, perhaps unhappily, in a position to "play the game," to protect their export positions and to guard the

status of their reserves. On balance, it would appear advisable to assure rather limited margins except where the need for wider ones is well demonstrated and substantial. It is presumed, of course, that countries wishing to initiate margins exceeding 1 per cent on spot transactions would be required to seek prior agreement with the International Monetary Fund.

Guaranties against a return to bilateralism and intra-EPU discrimination.—The provisions of the EMA which permit member countries to withhold from the central clearing bilateral payments balances (under certain conditions) and holdings in the currencies of other member countries raise the question of whether the EMA offers guaranties of this type as firm as those of the EPU. Under the EPU certain limited balances in the currencies of other member countries are held, e.g., old balances arising from capital transactions, and working balances may be held by commercial banks (Article 4f of the Agreement). But all current monthly central bank balances at the end of each accounting period must be reported and cleared through the EPU settlement mechanism. All such claims by one central bank against all other central banks are thus automatically liquidated in exchange for claims by each central bank on the Union and vice versa. This is the process of multilateralization. While a portion of intra-EPU trade and trade between EPU members and third countries in EPU currencies may be carried out through the private market, never reaching the central banks of the member countries involved, that portion of such exchange clearing the central banks must be cleared through the EPU.

Under the EMA, as pointed out above, a member country under certain circumstances must withhold from the monthly settlement system balances arising out of bilateral payments agreements. The significance of the handling of bilateral balances lies, of course, in whether or not they are multilateralized. If in practice under the EMA certain bilateral agreement balances should be excluded from the central clearing, this would represent a step backward toward bilateralism. One may reasonably hope, given the trade liberalization program and the unanimous vote requirement (excluding the two directly interested parties), that such a backward step will not come about. But the possibility is unfortunate. Additionally, one may understand the practical difficulties involved and yet particularly regret that the sanction against a bilateral agreement which would be contrary to EMA objectives would be to exclude balances involved from the multilateral process.

The EMA provision that balances held by one member country in the currency of another may or may not be brought into the clearing, at the discretion of the holder, means that, in contrast with the EPU, member countries would be in a position to hold a significant part of their international reserves not only in gold and dollars, but also in the currencies of other member countries. Further, as pointed out above, the exchange rate at which clearing would take place in the EMA monthly settlement would be such as normally to discourage recourse to the central clearing. That feature of the agreement provides not only an incentive to clear the majority of current earnings on foreign exchange markets, but under certain circumstances an incentive for increased central bank holdings of member currencies.

Suppose, for example, sterling margins are declared at $2.72 and $2.88, and that the prevailing market rate is $2.80. If another member country has an excess of sterling, it would, under the EPU, siphon this excess off the market, clearing it at $2.80 and acquiring units of account. There would be no incentive to hold the foreign currency; in fact, it could not be held. With the EMA, however, the country could only clear its excess through the monthly settlement mechanism at $2.72. It could sell the excess, or permit it to be sold, on the market at a rate between $2.80 and $2.72, assuming that the excess is large enough to affect the market rate. There would be incentives to speculate on a higher rate in the future (hold the excess as temporary reserves), and incentives to dispose of the excess on the market (within the margin rates). And, dependent on the circumstances, a member country might do either.

But there is another aspect involved: so long as the holding country has a choice, and the incentives are at best mixed, could not the country of issue (whose currency is in excess in the holding country's market) regard disposal of the excess on the market or through the central clearing as an unfriendly act, especially if it occurs at a time when the country of issue is experiencing great difficulties in its payments position? And this reaction on the part of the country of issue, under some conditions, could be justifiable. For while the accumulation of member currencies involves risks on the part of the holding country—the risk of a change in exchange rate margins (which is specifically eliminated in the EMA) and the risk of fluctuations within the existing rate margins (which is created, in effect, by the EMA) —it equally involves an impressive risk for the country of issue. This is the risk that the issuing country may suddenly be called upon, at a moment inopportune for it, to experience large scale releases of hold-

ings in its currency not presented for a rather long spell over the past. Under these circumstances, and especially in the absence of effective action on the international institutional level, it would not be unreasonable to anticipate that the country of issue might resort to such bilateral pressures as may be within its power.

Yet, to continue the EPU procedure of discouraging member holdings in the currencies of other member countries, while permitting holdings in dollars, involves some kind of discrimination against sterling and European currencies. And this might reasonably be a point of special dissatisfaction with respect to sterling, considering its past, and present, importance as a means of international settlement. This is a formidable problem justifying considerable attention. Suffice it here to point out that one solution might be that the holdings by member countries of member currencies be carried through the central clearing itself. This would mean that the individual member country would not hold member currencies, but would hold a claim on the central clearing, and the central clearing, in turn, could hold a part of its own assets in the form of member convertible currencies. This would constitute a tendency to shift from the concept of a mere clearing system into the creation of a supranational central bank for Western Europe and the Sterling Area. It would involve a number of issues which cannot here be considered.[4]

In the absence of such special measures as discussed above, under the EMA foreign exchange reserves held in the form of member currencies would not only be possible, but under certain circumstances there would be incentives and perhaps bilateral pressures to accumulate and hold them. This raises possibilities of discrimination and the type of uncertainty and risk, with perhaps some speculation at the central bank level, so well known from experience under the gold exchange standard as practiced by some countries during the interwar period. It is the type of problem the bancor was proposed to attack and the EPU so successfully attacked (as regards member currencies).

IV. Conclusions

1. The most significant aspect of the EMA is that it provides for the coexistence of both convertible and inconvertible currencies and possibly those with fixed and flexible exchange rates, within a common institutional framework, and some assurance against loss in progress achieved in nondiscriminatory intra-EPU trade and pay-

4. See Professor Triffin's "Système et Politique Monetaires de l'Europe Federée," *Economia Internazionale*, Vol. VI, No. 1 (Genoa, 1953).

ments. Whether this constitutes in itself a laudable motive is dependent in some measure on the reader's preferred approach to convertibility, but the dangers of convertibility in the absence of either the EPU or the EMA could be formidable, and the contribution of such institutions is substantial.

2. In terms of the mechanism it proposes, the EMA is most impressive in the proposal for 100 per cent dollar settlement backed by discretionary credits which include over-all balance of payments difficulties among the agreed criteria. However, there are no mechanical obstacles to prevent the EPU from extending its settlement ratio to 100 per cent dollars. It has moved consistently in that direction. There would remain a need for EPU to give substantially greater impetus to its special assistance (discretionary) credit program, and to consider over-all payments positions as part of the criteria for these credits.

3. Elsewhere, the EMA contains some weaknesses with respect to a possible return toward bilateralism and discrimination in intra-EPU trade, as well as some risks and uncertainties as regards a member country's international reserves, which are not present in the EPU operation.

4. On balance it would appear that the weaknesses of the EPU in comparison with the EMA are more easily adjustable mechanically than are the weaknesses of the EMA in comparison with the EPU. On the other hand, negotiating difficulties may well be reflected in such shortcomings as the EMA possesses. The EMA procedure appears workable and useful, but close scrutiny of its operation, especially as concerns any movement toward bilateralism and unduly large reserves in member currencies, would appear warranted.

5. Among the most significant contributions that the EPU or the EMA could make are those achieved by continuing not only the framework but the spirit of co-ordination and conciliation among West European and Sterling Area countries. This should provide for less disorderly retreats from world-wide, non-discriminatory convertibility in face of serious difficulties on the part of the convertible countries, offering some assurance against rapidly spreading restrictions and downward spirals in the level of world trade and world economic activity. Perhaps of equal importance, it would permit continued work through conciliation in the direction of flexibility in and co-ordination of West European and Sterling Area monetary and fiscal policies. The unique success achieved in this by the EPU and the

OEEC argues forcefully for the continuation of such institutions, regardless of whether the EPU or the EMA is the vehicle.

Indeed, the contribution of the EPU and the possible contribution of the EMA can be phrased, albeit partially, in terms of flexibility: (1) increased international liquidity by making available additional credit in the system, (2) the possibility of orderly movements upward and downward along a ladder of fractional settlements ranging up to 100 per cent gold or dollars, and at the same time maintenance of multilateralization of payments and trade within the OEEC area, and (3) increased flexibility in the monetary and fiscal policies (and perhaps, within limits, the exchange rate policies) of OEEC countries, brought about by conciliation on the one hand and the threat of retaliation within the system on the other. The postwar world has witnessed an increasing inflexibility of factors directly and indirectly affecting international payments, with stable exchange rates, limited international liquidity, and emphasis on domestic well-being (in the extreme, guaranteeing maximum full employement). Institutions which effectively contribute flexibility to the system are rare and useful.

GROWTH STOCKS AND THE PETERSBURG PARADOX*

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AT A TIME like the present, when investors are avidly seeking opportunities for appreciation, it is appropriate to consider the difficulties of appraising growth stocks. There is little doubt that when other things are equal the forward-looking investor will prefer stocks with growth potential to those without. But other things rarely are equal—particularly in a sophisticated market that is extremely sensitive to growth. When the growth potential of a stock becomes widely recognized, its price is expected to react favorably and to advance far ahead of stocks lacking growth appeal, so that its price-earnings ratio and dividend yield fall out of line according to conventional standards. Then the choice between growth and lack of growth is no longer obvious, and the astute investor must ask whether the market price correctly discounts the growth potential. Is it possible that the market may, at times, pay too much for growth?

Most problems encountered in appraising growth stocks seem to fall into two categories. First there are the practical difficulties of forecasting sales, earnings, and dividends. Then come the theoretical difficulties of reducing these forecasts to present values. For a long time it seems to have been assumed, altogether too casually, that the present value of a forecasted dividend stream could be represented simply as the sum of all expected future payments discounted at a uniform rate. Doubts, however, are beginning to manifest themselves. As early as 1938, J. B. Williams suggested non-uniform discount rates, varying from payment to payment.[1] More recently, Clendenin and Van Cleave have shown that discounting forecasted dividends at a uniform rate in perpetuity may lead to absurdities or paradoxes,

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1. John B. Williams, *The Theory of Investment Value* (Cambridge, Mass.: Harvard University Press, 1938), pp. 50–60.

since implied present values of infinity sometimes result. "We have not yet seen any growth stocks marketed at the price of infinity dollars per share," they remark, "but we shall hereafter be watching. Of course, many investors are skeptical and would probably wish to discount the very large and remote dividends in this perpetually growing series at a high discount rate, thus reducing our computed value per share to a figure somewhat below the intriguing value of infinity."[2] Clendenin and Van Cleave might have made a good point even better had they noticed a remarkable analogy between the appraisal of growth stocks and the famous Petersburg Paradox, which commanded the attention of most of the important writers on probability during the eighteenth and nineteenth centuries.

The Petersburg Paradox

In 1738 Daniel Bernoulli presented before the Imperial Academy of Sciences in Petersburg a classic paper on probability, in which he

TABLE 1

Sequence of Tosses	Probability	Payment
H	$\frac{1}{2}$	1
TH	$\frac{1}{4}$	2
TTH	$\frac{1}{8}$	4
TTTH	$\frac{1}{16}$	8
TTTTH	$\frac{1}{32}$	16

discussed the following problem, attributed to his cousin Nicholas: "Peter tosses a coin and continues to do so until it should land 'heads' when it comes to the ground. He agrees to give Paul one ducat if he gets 'heads' on the very first throw, two ducats if he gets it on the second, four if on the third, eight if on the fourth, and so on, so that with each additional throw the number of ducats he must pay is doubled. Suppose we seek to determine the value of Paul's expectation."[3]

One may easily obtain a solution according to the principles of mathematical expectation by noting the sequence of payments and probabilities in Table 1: Paul's expectation is the sum of the products of probability by payment or

$$\tfrac{1}{2}+\tfrac{2}{4}+\tfrac{4}{8}+\tfrac{8}{16}+\tfrac{16}{32}+\ldots.$$

2. John C. Clendenin and Maurice Van Cleave, "Growth and Common Stock Values," *Journal of Finance*, IX (1954), 365–76. Quotation appears on p. 369.

3. Daniel Bernoulli, "Exposition of a New Theory on the Measurement of Risk," *Econometrica*, XXII (1954), 23–36, which is a translation by Dr. Louis Sommer of Bernoulli's paper "Specimen Theoriae Novae de Mensura Sortis," *Commentarii Academiae Scientiarum Imperialis Petropolitanae*, V (1738), 175–92.

If the players agree to terminate the game after n tosses, whether a head shows or not, the series will contain n terms and its sum will be $n/2$; but if they agree to continue without fail until a head shows, as the rules of the game stipulate, then n is infinite and the sum $n/2$ is infinite as well. Thus the principles of mathematical expectation imply that Paul should pay an infinite price to enter this game, but this is a conclusion that virtually no one will accept. A variety of explanations have been given to show that the value of the game to Paul is, in fact, only a finite amount—usually a small finite amount; and all of these explanations are relevant to growth stock appraisal. But before considering them, we shall do well to examine an important modification of the original Petersburg problem.

One modification, which is obvious enough, consists in stipulating some figure other than $\frac{1}{2}$, say $1/(1+i)$, for the probability of tossing a tail and some figure other than 2, say $1+g$, for the rate of growth; but this has no particular interest for security appraisal. A more extensive modification, which is of interest, provides for a series of increasing payments, instead of a single lump sum. In effect, Peter agrees to pay D ducats if the first toss is a tail, $D(1+g)$ if the second is a tail, $D(1+g)^2$ if the third is a tail, $D(1+g)^3$ if the fourth is a tail, and so on until a head shows—at which point the game ceases. Then, if the probability of a tail is $1/(1+i)$, the mathematical expectation is (see Appendix)

$$\frac{D}{1+i}+\frac{D(1+g)}{(1+i)^2}+\frac{D(1+g)^2}{(1+i)^3}+\cdots\cdots \tag{1}$$

This series is arithmetically equivalent to a discounted series of dividend payments, starting at D ducats, growing at a constant rate g, and discounted at rate i.[4] The summation of the series is a simple exercise in actuarial mathematics. The sum of the first n terms is[5]

$$D\,\frac{1-(1+g)^n/(1+i)^n}{i-g}, \tag{2}$$

4. Possibly the objection may be raised that series (1) is conceptually quite different from a discounted series of dividends on the grounds that the discount rate ordinarily represents the price paid for waiting in addition to the price paid for assuming risk. To meet this objection, it suffices to discount the dividend series twice, first, by an amount just sufficient to cover the price of waiting, and second, by the amount required to cover the risk of dividend termination when Peter finally tosses a head. Then, the growth rate g in (1) would represent the real growth rate less an adjustment for waiting, and i would represent only the risk of termination.

5. See, for example, Ralph Todhunter, *The Institute of Actuaries' Text-Book on Compound Interest and Annuities-Certain*, 4th ed., revised by R. C. Simmonds and T. P. Thompson (Cambridge, England: University Press, 1937), pp. 48–49.

provided i is different from g; and the sum of an infinite or very large number of terms approaches the very simply formulated quantity

$$\frac{D}{(i-g)} \tag{3}$$

provided that i exceeds g. If, however, $g \geqslant i$, the sum of an infinite number of terms would again be infinite—as in the original Petersburg problem—and a reasonable Paul might again object to paying the price.

The applicability of formulas (2) and (3) to growth stock appraisal is not new. In 1938, for example, J. B. Williams[6] derived (3), or its equivalent, in order to appraise the retained portion of common-stock earnings. He made the derivation, using quite different notation, on essentially the following assumptions: first, that in any year j, earnings per share E_j bear a constant ratio, r, to book value, B_j; second, that dividends, D_j, bear a constant ratio, p, to E_j. Then,

$$B_{j+1} = B_j + E_j(1-p) = B_j[1 + r(1-p)].$$

Hence, book value, dividends, and earnings are all growing at the same constant rate $g = r(1-p)$ and formula (3) can be rewritten

$$\frac{D_1}{i-g} = \frac{E_1 p}{i-g} = \frac{B_1 p r}{i-g}. \tag{3a}$$

Williams realized, of course, that these formulas are valid only when i exceeds g, and he mentioned certain other limitations that are best discussed with some of the proposed solutions for the Petersburg Paradox.

Attempts To Resolve the Petersburg Paradox[7]

The many attempts to resolve the paradox, summarized very briefly below, fall mostly into two broad groups: those denying the basic assumptions of the game as unrealistic, and those arguing from additional assumptions that the value of the game to Paul is less than its mathematical expectation.

The basic assumptions of the game are open to all sorts of objections from the practically minded. How, in real life, can the game

6. *Op. cit.*, pp. 87–89, 128–135.

7. For a general history of the paradox, see Isaac Todhunter, *A History of the Mathematical Theory of Probability from the Time of Pascal to that of Laplace* (reprint, New York: G. E. Stechert & Co., 1931), pp. 134, 220–222, 259–262, 275, 280, 286–289, 332, 345, 393, 470. For a briefer treatment, see John Maynard Keynes, *A Treatise on Probability* (London: Macmillan and Co., 1921), pp. 316 ff.

continue indefinitely? For example, Peter and Paul are mortal; so, after a misspent youth, a dissipated middle age, and a dissolute dotage, one of them will die, and the game will cease—heads or no heads. Or again, Peter's solvency is open to question, for the stakes advance at an alarming rate. With an initial payment of one dollar, Peter's liability after only 35 tails exceeds the gold reserve in Fort Knox, and after only three more, it exceeds the volume of bank deposits in the United States and approximately equals the national debt. With this progression, the sky is, quite literally, the limit. Even if Peter and Paul agree to cease after 100 tosses, the stakes, though finite, stagger the imagination.

Despite these serious practical objections, a number of writers chose to accept the assumption of an indefinitely prolonged game at face value, and to direct their attention toward ascertaining the value of such a game to Paul. First among these was the Swiss mathematician Gabriel Cramer, who early in the eighteenth century proposed two arbitrary devices for resolving the Petersburg Paradox by assuming that the utility of money is less than proportional to the amount held.[8] First, if the utility of money is proportional to the amount up to $2^{24} = 166{,}777{,}216$ ducats and constant for amounts exceeding 2^{24}, so that the utility of the payments ceases to increase after the 24th toss, Paul's so-called moral expectation is about 13 ducats. Second, if the utility of money is assumed equal to the square root of the amount held, Paul's moral expectation is only about 2.9 ducats. Cramer believed that 2.9 was a more reasonable entrance fee than 13.

A little later and apparently independently, Daniel Bernoulli devised a solution only slightly different from Cramer's. Assuming that the marginal utility of money is inversely proportional to the amount held, he derived a formula that evaluates Paul's expectation in terms of his resources at the beginning of the game. From this formula, which does not lend itself to lightning computation, Bernoulli estimated roughly that the expectation is worth about 3 ducats to Paul when his resources are 10 ducats, about 4 ducats when his resources are 100, and about 6 when his resources are 1000.[9] At this rate, Paul must have infinite resources before he can value his expectation at infinity; but then, even his infinite valuation will constitute only an infinitesimally small fraction of his resources.

An interesting variant of Bernoulli's approach was proposed about

8. Cf. Bernoulli, *op. cit.*, pp. 33 ff.
9. *Ibid.*, pp. 32 ff.

a century later by W. A. Whitworth[10]—at least some of us would consider it a variant, though its author considered it an entirely different argument. Whitworth was, in fact, seeking a solution to the Petersburg Problem that would be free of arbitrary assumptions concerning the utility of money; and he derived a solution by considering the risk of gamblers' ruin, which is always present when players have limited resources. Thus, for example, if A with one dollar matches pennies indefinitely against B with $10, it is virtually certain that one of them will eventually be cleaned out; furthermore, A has 10 chances out of 11 of being the victim. Accordingly, a prudent A might demand some concession in the odds as the price of playing against B. But how much concession? Whitworth attacked this and other problems by assuming a prudent gambler will risk a constant proportion of his resources, rather than a constant amount, on each venture; and he devised a system for evaluating ventures that entail risk of ruin. Applied to the Petersburg Game, this system indicates that Paul's entrance fee should depend upon his resources. Thus Whitworth's solution is reminiscent of Bernoulli's—particularly when one realizes that Whitworth's basic assumption implies an equivalence between a dime bet for A with $1 and a dollar bet for B with $10. Bernoulli, of course, would have argued that the utility of a dime to A was equal to the utility of a dollar to B. Finally, the notion of a prudent gambler seeking to avoid ruin has strong utilitarian undertones, for it implies that the marginal utility of money is high when resources are running out.

But Whitworth's approach—regardless of its utilitarian subtleties—is interesting because it emphasizes the need for diversification. The evaluation of a hazardous venture—be it dice game, business promotion, or risky security—depends not only on the inherent odds, but also on the proportion of the risk-taker's resources that must be committed. And just as the prudent gambler may demand odds stacked in his favor as the price for betting more than an infinitesimal proportion of his resources, so may the prudent portfolio manager demand a greater than normal rate of return (after allowing for the inherent probability of default) as the price of investing more than an infinitesimal proportion of his assets in a risky issue.[11]

10. W. A. Whitworth, *Choice and Chance* (Cambridge, England: Deighton, Bell & Co., 4th edition, enlarged, 1886), chap. 9.

11. Section 87 of the New York Insurance Law states: "Except as more specifically provided in this chapter, no domestic insurer shall have more than ten per cent of its total admitted assets invested in, or loaned upon, the securities of any one institution; . . ." Section 81, subsection 13, places additional restrictions on common stock investment.

Although the preceding historical account of the Petersburg Paradox has been of the sketchiest, it should serve to illustrate an important point. The various proposed solutions, of which there are many, all involve changing the problem in one way or another. Thus some proposals evaluate the cash value of a finite game, even when the problem specifies an infinite game; others evaluate the utility receipts, instead of the cash receipts, of an infinite game; and still others foresake evaluation for gamesmanship and consider what Paul as a prudent man should pay to enter. But although none of these proposals satisfy the theoretical requirements of the problem, they all help to explain why a real live Paul might be loath to pay highly for his infinite mathematical expectation. As Keynes aptly summed it up, "We are unwilling to be Paul, partly because we do not believe Peter will pay us if we have good fortune in the tossing, partly because we do not know what we should do with so much money . . . if we won it, partly because we do not believe we should ever win it, and partly because we do not think it would be a rational act to risk an infinite sum or even a very large sum for an infinitely larger one, whose attainment is infinitely unlikely."[12]

Implications of Petersburg Solutions for Growth-Stock Appraisal

If instead of tossing coins, Peter organizes a corporation in a growth industry and offers Paul stock, the latter might be deterred from paying the full discounted value by any of the considerations that would deter him from paying the full mathematical expectation to enter the Petersburg game. And again, these considerations fall into two categories: first, those denying the basic assumptions concerning the rate of indefinitely prolonged growth; and, second, those arguing that the value of the stock to Paul is less than its theoretical discounted value.

Underlying J. B. Williams' derivation of formula (3) is the assumption that Peter, Inc., will pay dividends at an increasing rate g for the rest of time. Underlying the derivation in the Appendix is a slightly different assumption: namely, that Peter will pay steadily increasing dividends until the game terminates with the toss of a head, and that the probability of a head will remain forever constant at $i/(1+i)$. Under neither assumption is there any provision for the rate of growth ever to cease or even decline. But astronomers now predict the end of the world within a finite number of years—some-

12. Keynes, *op. cit.*, p. 318.

where in the order of 10,000,000,000—and realistic security analysts may question Peter, Inc.'s ability to maintain a steadily increasing dividend rate for anywhere near that long. Williams, in fact, regarded indefinitely increasing dividends as strictly hypothetical, and he worked up formulas for evaluating growth stocks on the assumption that dividends will follow a growth curve (called a logistic by Williams) that increases exponentially for a time and then levels off to an asymptote.[13] This device guarantees that the present value of any dividend stream will be finite, no matter how high the current, and temporary, rate of growth. Clendenin and Van Cleave, though not insisting on a definite ceiling, argued that continued rapid growth is possible only under long-run price inflation.

The assumption of indefinitely increasing dividends is most obviously objectionable when the growth rate equals or exceeds the discount rate ($g \geqslant i$) and the growth series (1) sums to infinity; then formula (3) does not even apply. If Peter, Inc., is to pay a dividend that increases at a constant rate $g \geqslant i$ per year, it is absolutely necessary, though not sufficient, that he earn a rate on capital, $r = E/B$, that is greater than the rate of discount—more exactly, $r \geqslant i/(1 - p)$. But this situation poses an anomaly, at least for the equilibrium theorist, who argues that the marginal rate of return on capital must equal the rate of interest in the long run. How, then, can Peter, Inc., continually pour increasing quantities of capital into his business and continue to earn on these accretions a rate higher than the standard rate of discount? This argument points toward the conclusion that growth stocks characterize business situations in which limited, meaning finite though not necessarily small, amounts of capital can be invested at rates higher than the equilibrium rate. If this is so, then the primary problem of the growth-stock appraiser is to estimate how long the departure from equilibrium will continue perhaps by some device like Williams' growth curve.

If, for the sake of argument, Paul wishes to assume that dividend growth will continue indefinitely at a constant rate, he can still find reasons for evaluating Peter's stock at somewhat less than its theoretical value just as he found reasons for evaluating his chances in the Petersburg Game at less than the mathematical expectation. The decreasing-marginal-utility approach of Cramer and Bernoulli implies that the present utility value of a growing dividend stream is less than the discounted monetary value, because the monetary value of the large dividends expected in the remote future must be sub-

13. Williams, *op. cit.*, pp. 89–94.

stantially scaled down in making a utility appraisal. Or again, Whitworth's diversification approach implies that a prudent Paul with finite resources can invest only a fraction of his fortfolio in Peter's stock; otherwise he risks ruinous loss. And either argument is sufficient to deter Paul from offering an infinite price, unless, of course, his resources should be infinite.

The Problem of Remote Dividends

There is, moreover, another important limitation on Paul's evaluation of a growth stock that has not arisen in the discussion of the Petersburg Paradox, namely, the remoteness of the large dividend payments. Conventional theory argues that a dividend n years hence is adequately evaluated by the discount factor $1/(1 + i)^n$, but this is open to question when n is very large. The question is, of course, academic for ordinary instruments like long-term bonds or preferred stock, since discounted coupons or preferred dividends many years hence are negligible when discounted in the conventional manner. Thus, for example, if \$5.00 a year in perpetuity is worth exactly \$100.00 (assuming 5 per cent compounded annually), then \$99.24 is attributable to the first 100 payments. But for a stock growing according to series (1) and with $g \geqslant i$, the discounted value of remote dividends, say 10,000 years hence, is anything but negligible; in fact, it may be astronomic. But how should Paul evaluate such remote growth dividends?

If Paul is a real live person without heirs or other incentives for founding an estate, his problem is fairly clearcut. Dividends payable beyond his reasonable life span are useless to him as income, although claims on them may be convertible into useful income through the medium of the market place. At retirement, for example, he might easily be able to increase his income for the remainder of his life by selling long-term securities and buying an annuity. If, however, Paul has heirs, he may look forward several generations and place a very real value on dividends that will be payable to his grandchildren and great-grandchildren. But even here his investment horizon may be limited by the uncertainty of planning for offspring not yet born.

If Paul is a life insurance company, he has a special interest in evaluating remote dividends; for the shades of obligations currently contracted may extend far into the future as the following fanciful though not impossible sketch will indicate. In 1956 John Doe, aged 21, buys for his own benefit a whole life policy containing the cus-

tomary guaranty of a rate of interest if the insured elects to settle the proceeds in instalments. In 2025, aged 90, John Doe decides to settle this policy on his newborn great-grandson Baby Doe and directs the insurance company to accumulate the proceeds at the guaranteed rate of interest until Baby Doe shall reach the age of 21 and thereupon pay them out to him as a life income, according to the table of guarantied rates in the policy. Encouraged by his monthly checks, Baby Doe now lives to the ripe old age of 105, so that only in 2130 does the insurance company finally succeed in discharging its obligation of 1956, based on the then current forecasts of long-term interest rates.

Even though the case of John Doe may be a bit out of the ordinary, it illustrates forcefully why life insurance companies must concern themselves with dividend income up to perhaps 200 years hence and how a future decline in the earning rate on assets may threaten the solvency of an insurance fund. Although the purchase of long-term bonds is an obvious form of protection against falling interest rates, it is not entirely effective when the liabilities extend too far into the future. To illustrate the difficulty of long-term protection, it will be convenient at this point to introduce a concept called "duration" by Macaulay,[14] which may apply to an individual security, a portfolio of securities, or even to a block of liabilities. Duration, incidentally, must not be confused with a related concept known as "equated time."

The duration of an individual security or a portfolio is the arithmetic mean of the several coupon or maturity dates, each date weighted by the present value at the valuation rate of interest of the expected income on that date. The duration of an E bond or non-interest-bearing note is simply the term to maturity; and the duration of a portfolio consisting, for example, of two $100 E bonds due two years hence and a $500 E bond due five years hence would be

$$\left[\frac{2\times 200}{(1.03)^2}+\frac{5\times 500}{(1.03)^5}\right]\div\left[\frac{200}{(1.03)^2}+\frac{500}{(1.03)^5}\right],$$

if evaluated at 3 per cent compounded annually. The duration of an interest-bearing bond is less than the term to maturity, because the long term of the principal payment at maturity must be averaged against the shorter terms of the various coupons. Macaulay's formula for the duration of interest-paying bonds is somewhat complex;

14. F. R. Macaulay, *Some Theoretical Problems Suggested by the Movement of Interest Rates, Bond Yields and Stock Prices in the United States since 1856* (New York: National Bureau of Economic Research, 1938), pp. 44–51.

but for perpetuities, such as Canadian Pacific debenture 4's, it simplifies to $(1 + i)/i$.[15] At $i = .03$, the duration of a perpetuity is therefore about 34 years.

In seeking suitable methods for matching the assets of a fund to its liabilities so as to minimize risk of loss from fluctuations in the interest rate, British actuaries have shown that the possible loss is very small when both present value and duration of the assets equal present value and duration of the liabilities; and, indeed, they have given examples where the "loss" is a small gain for fluctuations either up or down.[16] But although the portfolio manager can ordinarily achieve satisfactory matching by merely selecting long- and short-term bonds in such proportions that their average duration equals that of the liabilities, he runs into difficulty when the duration of the liabilities is exceptionally long. Thus, for example, the duration of the liability of a pension fund with many young workers and only a few pensioners can easily exceed 40 years: and this is too long to be matched by a portfolio consisting wholly of perpetuities, whose duration at current interest rates is only about 30 years. In such a difficulty, however, growth stocks offer a possible solution; for when dividends are growing according to series (1), the duration is longer than a perpetuity. In fact, if we define

$$1 + b = \frac{1+i}{1+g}.$$

then $(1 + b)b$ is the duration of the series.[17] Thus growth stocks provide a possible means of increasing the average duration of a portfolio when the composition of the liabilities requires this. W. Perks has, in fact, hinted as much.[18]

15. Macaulay, *op. cit.*, pp. 49–50. In Macaulay's formula for perpetuities (p. 50) let $R = 1 + i$.

16. See, for example, J. B. H. Pegler, "The Actuarial Principles of Investment," *Journal of the Institute of Actuaries* (England), Vol. 74 (1948), pp. 179–211; F. M. Redington, "Review of the Principles of Life-Office Valuations," *ibid.*, Vol. 78 (1952), pp. 286–340; G. V. Bayley and W. Perks, "A Consistent System of Investment and Bonus Distribution for a Life Office," *ibid.*, Vol. 79 (1953), pp. 14–73; A. T. Haynes and R. J. Kirton, "The Financial Structure of a Life Office," *Transactions of the Faculty of Actuaries* (Scotland), Vol. 21 (1953), pp. 141–218; D. J. Robertson and I. L. B. Sturrock, "Active Investment Policy Related to the Holding of Matched Assets," *ibid.*, Vol. 22 (1954), pp. 36–96. Also see Paul A. Samuelson, "The Effect of Interest Rate Increases on the Banking System," *American Economic Review*, XXXV (1945), 16–27, especially p. 19.

Interest of the British in this subject, which seems to be greater than that of the Americans, may be due in part to their relative freedom from liability for policy loans. Although the British companies are prepared to make such loans, they are not forced to do so.

17. This can be proved by using Macaulay's method of finding the duration of a perpetuity and making the substitution $b = i$.

18. See his remarks following the paper by Redington, *op. cit.*, p. 327.

There is, in fact, no theoretical limit to the duration of a stock with dividends growing as in (1). When $g = .05$ and $i = .06$, say, the duration is approximately 100 years; and as the difference between g and i decreases, durations of 1,000 years, 10,000 years, or even 1,000,000 years might result. Moreover, when $g \geqslant i$, $b \leqslant 0$ and formula $(1 + b)/b$ is no longer valid; then the duration is infinite as well as the present value. But although securities with a duration of 100 years might be useful to British life companies for increasing average duration of pension fund assets, or for providing protection against contingencies illustrated by the case of John Doe above, securities with much greater duration would begin to lose appeal. The essential characteristic of a very long duration is that the security holder or his legatees must expect to wait a long time before the security begins to pay a substantial return; and with those hypothetical securities having infinite duration, the legatees must literally expect to wait forever. Even the most forward looking of investors, who are probably those who leave bequests to such institutions as universities and religious organizations, cannot afford to look that far into the future; for, to paraphrase Keynes, it would not be a rational act to risk an infinite sum or even a very large sum for an infinitely larger one, whose attainment is infinitely remote. In effect, the very remote dividends in series (1) cannot be worth their actuarially discounted value when g is large; whether they are worth it when g is small is probably academic, for then the discounted value will be negligible.

To allow for various uncertainties in evaluating dividends in the very remote future, Clendenin and Van Cleave made a significant suggestion, namely, to increase the discount rate applicable to the more remote dividends. The difficulty, of course, is to find some reasonable, objective basis for setting up an appropriate schedule of rates. To illustrate their suggestion, Clendenin and Van Cleave worked out valuations for hypothetical securities by discounting the first twenty years of dividends at 4 per cent, the second twenty at 6 per cent, the third twenty at 8 per cent, and considering all subsequent dividends as worthless. But although such a schedule, totally disregarding all dividends after 60 years, might appeal to a man aged 40 without heirs, it would not appeal to insurance companies and pension managers, who have to look forward 150 to 200 years; and it would certainly not appeal to the loyal alumnus, who wishes to leave a bequest to alma mater. But the essential point is that by setting up a schedule of discount rates that increase fast enough to

render very remote dividends negligible, one can assure himself that the present value of any increasing stream of dividends will be finite. And although many investors would object to neglecting dividends after 60 years, few would object to neglecting them after 600.

Summary and Implications for Security Appraisal in General

There are, to sum up, a number of potent reasons any one of which suffices to dissuade Paul from paying an infinite price for a growth stock under even the most favorable circumstances, namely when $g \geqslant i$ and the sum of series (1) is infinite. Moreover, these reasons do not lose all their force when $g < i$ and the sum of (1) is finite. In appraising any growing stream of dividends, Paul might wish to make provision for eventual decline and perhaps cessation of the growth rate, as suggested by J. B. Williams; he might adjust large dividends to allow for the decreasing marginal utility of money, somewhat in the manner of Cramer and Bernoulli; or again he might apply Whitworth's reasoning and scale down his valuation to a sum he can afford to risk, given his resources; or finally he might, following Clendenin and Van Cleave, apply a very high discount rate to remote dividends that have no significance to him. And he might, of course, apply a combination of such approaches.

But, oddly enough, the very fact that Paul has so many good reasons for scaling down the sum of series (1) when g is high, and so many ways to accomplish this end, leaves him with no clear basis for arriving at any precise valuation. Thus, the possible adjustments for the decreasing marginal utility of money are many and varied. Cramer's two proposals yielded very different solutions for the Petersburg Problem and would yield very different appraisals if applied to rapidly growing growth stocks; and Daniel Bernoulli's proposal would yield yet another result. Or again, there are many ways by which Paul can allow for an eventual decline in the current rate of growth, all of which entail major forecasting problems. Williams' formula, for example, which is stated here in the form[19]

$$V = D\left[\frac{(1+g)^n - (1+i)^n}{(g-i)\,(1+i)^n} + \frac{(2g+i+2gi)\,(1+g)^n}{i(g+i+gi)\,(1+i)^n}\right]$$

after the substitution $D = \Pi_0(1+g)$ and some rearrangement, rests on the somewhat restrictive assumption that dividends grow annually at a constant rate g for n years and then taper off exponen-

19. Williams, *op. cit.*, formula (27a), p. 94.

tially to a level equal to exactly twice the dividend in the nth year. Even when the assumptions are acceptable in principle, practical application of the formula may require more accurate information on g, i, and n than one could possibly expect to obtain. This is particularly true when n is large and g is only slightly larger than i; then $g - i$ in the denominator of the first fraction is small and tremendously sensitive to errors in either g or i. Nor is this difficulty peculiar to Williams' formula. Table 2, abridged from Clendenin and Van Cleave,[20] gives the present value of 60 dividend payments discounted at 5 per cent. It is assumed that the initial dividend rate of $1.00 grows at either 4 per cent or 5 per cent for a period of years and then remains constant for the remainder of the 60-year period, after which dividends either cease or are considered worthless. This

TABLE 2

Growth Period	Rate of Growth 5 Per Cent	4 Per Cent
0	$18.93	$18.93
10	28¼	26
20	37	32½
30	45½	37½
40	52½	41½
50	57¾	44½
60	60	45½

table again illustrates the difficulty of making appraisals without an accurate forecast of the growth rate and the length of the growth period.

More conventional securities such as bonds and preferred stocks, though much less troublesome than growth stocks, still present some of the same difficulties of evaluation, and a single example should make this clear. In evaluating bonds—even bonds of supposedly uniform quality—one must make some adjustment for term to maturity. Ordinarily one does this by summing a discounted series of coupons and principal

$$\frac{C}{1+i_n}+\frac{C}{(1+i_n)^2}+\ldots.+\frac{C}{(1+i_n)^n}+\frac{P}{(1+i_n)^n}$$

in which the uniform discount factor depends on the number of years to maturity. Alternatively, however, one could follow the suggestion of Clendenin and Van Cleave, which would entail summing the series

$$\frac{C}{1+i_1}+\frac{C}{(1+i_2)^2}+\frac{C}{(1+i_3)^3}+\ldots+\frac{C}{(1+i_n)^n}+\frac{P}{(1+i_n)^n}$$

20. *Op. cit.*, Table 4, p. 371.

in which each discount factor i_1, i_2, etc. depends on the date of the coupon or principal payment discounted. But whether one prefers the conventional method or the alternative, the issue is clear: one cannot apply a standard discount factor i uniformly to all bonds; some adjustment for the length, or duration, of the payment stream is essential.

The moral of all this is that conventional discount formulas do not provide completely reliable evaluations. Presumably they provide very satisfactory approximations for high-grade, short-term bonds and notes. But as quality deteriorates or duration lengthens, the approximations become rougher and rougher. With growth stocks, the uncritical use of conventional discount formulas is particularly likely to be hazardous; for, as we have seen, growth stocks represent the ultimate in investments of long duration. Likewise, they seem to represent the ultimate in difficulty of evaluation. The very fact that the Petersburg Problem has not yielded a unique and generally acceptable solution to more than 200 years of attack by some of the world's great intellects suggests, indeed, that the growth-stock problem offers no great hope of a satisfactory solution.

APPENDIX

Proof of Formula (1) for Paul's Expectation in the Modified Petersburg Game

The table below lists a few possible outcomes, with associated probabilities, for the modified Petersburg Game, in which Peter pays Paul a series of dividends according to the number of tails that occur before a head finally shows. There is, of course, an infinite number of such possible outcomes, because every finite

Sequence of Tosses	Probability	Dividend	Total Pay (Cumulated Dividends)
H	$i/(1+i)$	0	0
TH	$i/(1+i)^2$	D	D
TTH	$i/(1+i)^3$	$D(1+g)$	$D+D(1+g)$
TTTH	$i/(1+i)^4$	$D(1+g)^2$	$D+D(1+g)+D(1+g)^2$
. . . . .			

sequence of tails, no matter how long, has a finite, though possibly very small, probability of occurring. It is assumed, moreover, that throughout even the longest sequence, the probability of a tail remains constant at $1/(1+i)$, leaving $i/(1+i)$ as the probability of a head.

Paul's mathematical expectation is obtained by summing the products of probability in the second column by payout in the fourth. Thus, the sequence TTH, for example, has probability $i/(1+i)^3$ and results in the payout of two

dividends, D and $D(1 + g)$. The product appears in the table below along with similar products for the sequences H, TH, and TTTH.

Sequence	Product
H	0
TH	$Di/(1+i)^2$
TTH	$[D+D(1+g)]i/(1+i)^3$
TTTH	$[D+D(1+g)+D(1+g)^2]i/(1+i)^4$

To sum these products, it is convenient to break them up and to rearrange the parts in powers of $1 + g$. Thus, for example, all elements containing $(1 + g)^2$ form an infinite series

$$\frac{Di\,(1+g)^2}{(1+i)^4}\left[1+\frac{1}{1+i}+\frac{1}{(1+i)^2}+\ldots.\right],$$

where the factor in the bracket is a well-known actuarial form having the sum to infinity $(1 + i)/i$. Thus, the sum of all elements in $(1 + g)^2$ is $D(1 + g)^2/(1 + i)^3$, which is one of the terms in series (1). The other terms are obtained in an analogous manner.

AVERAGING CORPORATION INCOME FOR TAX PURPOSES: A STATISTICAL STUDY

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PROPOSALS for allowing the averaging of net taxable income[1] for income tax purposes ordinarily exclude the taxable income of corporations. The cogent rationale favoring the averaging (over several years) of personal income—a sharply progressive income tax structure and a desire that taxpayers reporting the same total taxable income over a period of years pay the same total income taxes—are almost absent in the case of the corporate tax. Nevertheless, the averaging of income for tax purposes[2] has some merit in the case of the corporate income tax also.

For one thing, the many administrative difficulties of the present tax law caused by rigid adherence to an annual tax period concept would be decreased.[3] Placing depreciation and inventory change amounts into their "proper" annual compartments would no longer require the effort currently expended by the Treasury Department. However, averaging would bring into tax law its own complexities,[4] which would diminish its advantages in this area.

The proposal's economic effects offer a more tangible argument in its favor. The liquidity and retained earnings position would improve

1. Loss carryovers are not considered in this paper. The averaging proposal under discussion is designed to ameliorate the situation, arising under a progressive tax-rate structure, where the taxpaying entity having fluctuating annual net taxable incomes over a period of years pays higher total taxes (over this period) than a taxpayer with the same total income but received in a stable flow.

2. The corporate-income averaging system envisaged in this paper is a simple device whereby, at the end of a certain specified period, corporations would compute the tax that would have been paid over the period had the arithmetic average of the taxable incomes of the period been received annually instead of the actual incomes. The difference between this total tax and the total tax actually paid over the period (including the current tax payment) would be refunded. The averaging proposal is intended to mitigate the progression of a corporate income tax structure fixed over several years, not the effects of a corporate income tax structure which changes its rates from year to year.

3. William Vickrey, a leading proponent of averaging for personal income tax purposes, favors averaging of corporate income on this ground. W. Vickrey, *Agenda for Progressive Taxation* (New York: Ronald Press, 1947), p. 193.

4. Some administrative effort would have to be directed, under an averaging system, to seeing that all items of expense and income were counted just once. Furthermore, unless an interest-type adjustment is made for the postponing of taxes until the end of any averaging period, undue postponement of taxation would have to be prevented.

for small, growing corporations—those corporations which require capital so urgently for growth but usually find it so difficult to raise at reasonable borrowing costs.[5] Were corporate tax rates unchanged from year to year, the primary beneficiaries of the proposal would be those relatively small corporations with income which fluctuated about the $25,000 level. The reason for this is that, under current law, corporate income below $25,000 is "normal tax net income" and is taxed at a much lower rate (i.e., 30 per cent) than the "surtax net income" (i.e., all income above the $25,000 "normal tax net income"), which is taxed at 52 per cent. Were averaging allowed, the below $25,000 annual net taxable income of any corporation having income which fluctuated (over several years) about the $25,000 level would reduce the amounts of the above $25,000 income subject to the 22 per cent surtax. For the new, growing corporation, averaging of positive net income is equivalent to a carryforward device which allows low initial earnings to reduce the subsequent tax liability arising from higher net earnings.

As substantial as the merits of the proposal may be, its importance in the hierarchy of tax proposals must rest upon such data as the number of corporations that would be affected and how much each would benefit. Also needed is an estimate of the revenue loss involved. The purpose of this paper is to attempt to provide this information and thus to supply the factual basis needed for an intelligent appraisal of the proposal.

Since the results of this paper are based upon a statistical analysis, it is proper that the methodology of the analysis be discussed first.

Method of Analysis[6]

The purpose of the analysis is to investigate the extent to which corporations with consistently positive net incomes pay higher taxes, under the existing corporate income tax structure, because they are taxed on their annual rather than their average (over some period) income. Ideally, were such data available, the method of analysis would be to (*a*) select a large sample of corporations of all sizes, (*b*) compile for each corporation its taxable income and income taxes over a selected period of years, during which tax rates did not change, (*c*) compute the taxes that would have been paid had averaging of positive income been allowed during this period, and (*d*) find

5. See J. K. Butters and J. Lintner, *Effects of Federal Taxes on Growing Enterprises* (Boston: Harvard Business School, Division of Tax Research, 1945).

6. A fuller description may be found in the writer's doctoral dissertation at Harvard University, *The Averaging of Income for Tax Purposes,* chap. iii.

the difference between the taxes that were paid and that would have been paid under averaging. Unfortunately, taxable income data for identical corporations (and particularly for the small corporations which would be the major beneficiaries of averaging) are not reported, by corporations, for any extended period. Furthermore, no corporate income tax rate structure has been in effect for more than a few years.

As a substitute method, therefore, it was decided to choose a period of years for investigation which would provide interesting, but not necessarily atypical, income variation and a typical corporate rate structure. The period chosen was 1936 to 1948, and the chosen corporate rate structure, assumed to have been used through this period, was the current one described above. In lieu of actual income figures for each of thousands of corporations, "typical" hypothetical thirteen-year income streams were developed for each of a number of different "asset size–income size" (as of 1936) groups of corporations. For example, all firms having less than $50,000 in assets in 1936 were divided into net income subgroups. For those with between $5,000 and $7,500 net income in 1936, a typical income stream for the ensuing twelve years was developed. Similarly, income streams were developed for all other net income subgroups within this size class. All other size classes were similarly treated.

The basic data[7] for this derivation of hypothetical income streams were the aggregative[8] income statistics of *identical* corporations over some of the years of the thirteen-year period chosen: these were used to obtain thirteen-year indices of income change for different "asset size–income size" corporations.

The next step was to compute, for each of the developed hypothetical income streams, the total taxes (assuming the current rate structure) that would have been paid by a corporation receiving this income under three assumptions: (*a*) Taxes were computed on the present annual basis. (*b*) At the end of 1948, the thirteen-year average income was computed, the tax was computed for this average an-

7. The data were found in the following sources: *Financial Characteristics of American Manufacturing Corporations,* Temporary National Economic Committee Monograph No. 15 (1940), pp. 8–13, 38, 42, App. F (pp. 203–27, Table I); J. C. Baker, "Executive Compensation Payments by Large and Small Industrial Companies," *Quarterly Journal of Economics,* LIII (1939), 404–34; U.S. Federal Trade Comm., *Report on Wartime Costs and Profits for Manufacturing Corporations, 1941–1945* (Washington, D.C., 1947); War Profits Study No. 16, *Profits Growth to Wartime Peak* (Office of Price Administration, Office of Temporary Controls, 1947), Tables 23–27. To extrapolate the data into later years, for which no similar data were available, a multiple correlation technique using such independent variables as national income and *Statistics of Income* aggregate data on corporate income (in various size classes) was used.

8. Were the data available, not in aggregative form but separately for each of the corporations in the sample, this method would not have been necessary.

nual amount, and this tax amount was multiplied by thirteen. If the product was less than the total sum of taxes computed under assumption (*a*), a refund of this amount was to be obtained. (*c*) Averaging was allowed only from 1941 to 1948. The refund paid in 1948, if any, was equal to the difference between the sum of the taxes on the annual incomes for the eight-year period and the sum of the taxes that would have been paid had the eight-year average income been received for each year of the eight-year period.

Following this, some idea had to be obtained of the numbers of corporations that might have experienced any of these thirteen-year hypothetical income streams and would have benefited from averaging, had it been permitted. Bureau of Internal Revenue data[9] permitted this kind of bridge between the hypothetical income series and the real world. However, since *Statistics of Income* data are aggregative, other methods had to be used for determining how many of the corporations which *might* have benefited from averaging during this period actually would have been in existence through the entire period. This information was needed because corporations with a life span that either began after 1936 or ended before 1948 would not have benefited, on the whole, as much as corporations that were in existence for the entire period. An adjustment was made for this state of affairs by applying corporation "survival ratios,"[10] computed for each of several time periods and several asset-size groups of corporations. These survival ratios permitted separating out those corporations that, in each size bracket, would have received the full benefits of averaging from those that would not have lived long enough to have benefited the full amount.

Results of the Analysis

The results of applying the statistical procedures just described are presented in Table 1. The upper half of the table deals with the thirteen-year averaging system, the bottom half with the eight-year (1941 to 1948) averaging system. Then, for each asset-size class,[11]

9. The data used were of two kinds: the numbers of corporations in each asset-size bracket for each year 1936 to 1948, and the income distribution of corporations within each asset-size bracket. The former appear in the *Statistics of Income*, Vol. II, annually, and the latter data appeared in the 1936, 1937, and 1948 issues of the *Statistics of Income*.

10. These survival ratios show the number of corporations which would survive time periods of various lengths. Several improvisations in the method had to be made, but the basic technique for computing the survival ratios was that of W. L. Crum, *Age Structure of the Corporate System* (Berkeley and Los Angeles: University of California Press, 1953).

11. The analysis, for purposes of obtaining the results in terms of size classes, assumes that firms remain in the same size class during any one averaging period. The only relevant data on the subject show that there is not much movement of firms from one corporate size class to another from one year to the next. See Bureau of Internal Revenue,

the table shows: (1) The total number of corporations that would have benefited from averaging. This includes corporations that did not live through the entire period. (2) The number of corporations that would have existed through the entire period and also would have received averaging benefits. These corporations may be named "full-benefit" corporations. (3) The aggregative tax refunds that would have accrued to full benefit firms. (4) The average dollar

TABLE 1

AVERAGING BENEFITS FOR CORPORATIONS OF VARIOUS SIZES FOR TWO AVERAGING PERIODS

Asset Size Class (1,000's of dollars)	No. of Firms That Would Benefit at All	Number That Would Receive Average Benefits and Live throughout Average Period	Total Benefits Going to Full-Benefit Firms (millions of $'s)	Average Benefits for Those That Would Receive Full Benefits	Averaging Benefits as a Per Cent of Before-Tax Income* (for Corporations receiving full benefits)
		1936–48			
0 under 50.....	6,004	1,374	4.9	$3,566	2.1
50 under 100.....	8,686	3,900	19.2	4,915	2.7
100 under 250.....	14,761	8,074	37.0	4,580	3.0
250 under 500.....	8,189	4,971	10.4	2,090	1.9
500 under 1,000...	3,041	2,089	6.7	3,210	1.9
Sum or average....	40,681	20,408	78.2	$3,830	2.5
		1941–48			
0 under 50.....	4,205	1,480	2.6	$1,857	.8
50 under 100.....	7,784	4,812	10.8	2,244	1.3
100 under 250.....	11,839	8,666	23.7	2,735	1.6
250 under 500.....	3,533	2,791	5.7	2,042	1.0
500 under 1,000...	1,613	1,397	2.7	1,933	1 0
Sum or average....	28,974	19,146	45.5	$2,380	1.3

* This "before-tax income" is the sum of 1936–1948 income for the upper half of Table 1 and the sum of 1941–1948 income for the lower half of Table 1.

benefit accruing to each full benefit firm. (5) The averaging benefits for full-benefit corporations as a percentage of the before-tax income (for the relevant period) of all full-benefit corporations.

Table 1, along with other data derived from the analysis, provides the information needed to establish tax policy: the number of firms, how much they are affected, which ones are affected, and the differences due to lengths of averaging periods.

Statistics of Income (Part II, 1938), pp. 35–41. Moreover, even if firms did change size classes, it is likely that they would move into the nearest size class. During any one averaging period, most corporations would probably be in no more than two adjacent size classes. Thus, the results of the analysis are certainly not too incorrect.

Numbers of Firms Affected

The results indicate that, no matter how long the averaging period, several thousands of firms would benefit from averaging. To relate them to the total numbers of corporations in the less than $1,000,000 size class, the more than 40,000 firms that would have received some benefit from a thirteen-year averaging system may be compared to the 145,000 firms (in these size classes) that lived throughout the entire period.[12] More than 20,000, or about 14 per cent of this total number of potential full beneficiaries, actually would have received the full benefits of averaging. The corresponding total number of less than $1,000,000 asset-size corporations living through the eight-year period 1941–48 is 225,700.[13] The beneficiaries of eight-year averaging are almost 13 per cent of this total, while the full beneficiaries of the eight-year averaging period are 8.5 per cent of this total.

Benefits per Taxpayer

As a percentage of before-tax income (for the relevant periods), the benefits for full benefit corporations would have averaged 2.5 per cent over the longer averaging period and 1.3 per cent over the shorter period. As a percentage of total taxes paid under the annual method of taxation, the percentages are 6.6 per cent and 3.5 per cent, respectively. While several hundred corporations would have received refunds which averaged more than $500 per year of the averaging period, the typical refund per beneficiary firm would have been about $300 per year.

Aggregate Benefits[14]

The aggregate benefits computed for beneficiary firms living throughout the entire thirteen-year period is $78.2 million, and $45.5 million for those living throughout the shorter averaging period. Results not shown in Table 1 indicate that for all beneficiary firms (i.e., both those that would and would not survive the averaging period) the total benefits would be about $130 million over the longer period, or $10 million per year, and about $56 million over the shorter period, or $7 million per year.

12. This figure is obtained by taking a sum of the thirteen-year lows (in terms of number of corporations) for each of the size brackets up to $1,000,000 found in the annual 1936–48 *Statistics of Income*.

13. The figure is obtained by summing the eight-year (1941–48) lows for each of the asset-size brackets up to $1,000,000 found in the annual *Statistics of Income*.

14. These paragraphs might also have been titled "Revenue Implications of Corporation Averaging."

Size of Beneficiaries

Preliminary investigations indicated that very few corporations in the larger than $1,000,000 asset-size class would have benefited from averaging. Very few firms of this size had incomes which fluctuated about $25,000 during these years. Therefore, comprehensive analysis was restricted to the firms smaller than this.

The results shown in Table 1 indicate that the small, but not the smallest, firms would have received the largest (absolute) average and total benefits over either averaging period. This is because relatively more firms in the $50,000 to $250,000 asset-size classes had the incomes over the period which fluctuated about the $25,000 level. In the very lowest asset-size class, few firms would have received benefits because few firms in this size class had incomes reaching the $25,000 level. Of the almost 70,000 firms in the less than $50,000 size class that might have benefited from averaging,[15] only 6,004, or less than 10 per cent, would have benefited to some extent. Furthermore, due to the high mortality rate for small firms, less than 25 per cent of the beneficiaries (and less than 2 per cent of the firms in this size class) would have survived the thirteen-year period and thus received the full benefits of averaging. Due to a combination of high fluctuation about the $25,000 income level and relatively low mortality rates, the $100,000 to $500,000 asset-size class has the highest ratio of "firms receiving full benefits" to "all firms in the asset-size class."[16]

Length of Averaging Period

By bringing depressed and booms years together, into a thirteen-year period, average yearly aggregate benefits increased almost 50 per cent, from $7 million to $10 million.[17] The thirteen-year averaging period more than doubles the total benefits of the eight-year averaging period but increases the total benefits of full-benefit corporations only by 71 per cent.[18] Furthermore, since incomes were relatively low in the 1936 to 1940 period, averaging benefits as a percentage of income (and also as a percentage of taxes) would almost double were the averaging period long enough to include both the depression and boom years.

15. The lowest number of firms in this size class during the thirteen-year averaging period was 66,395. For 1941 to 1948, the lowest number was 105,053.

16. This percentage exceeded 25 per cent for firms in this size class during the thirteen-year averaging period.

17. See above, p. 369.

18. $(78.2 - 45.5) \div 45.5$

Conclusions

A great deal cannot be claimed in favor of allowing the averaging of corporate income so as to mitigate the effects of the progressive income tax on the positive income fluctuations of small corporations. The dollar amounts involved are certainly very small relative to the total amount of tax revenues. However, in its automatic selectivity, the proposal has much in its favor. Several thousands of small, growing firms would receive fairly substantial benefits over an averaging period of a decade or so. The benefits for firms living throughout the entire period would average about 6.5 per cent of the taxes they pay under the present system. While such refunds may not save many firms from bankruptcy, they surely would be highly appreciated by those firms that, for the most part, are highly in need of ways to increase their retained earnings. At the cost of $10,000,000 yearly, this tax proposal is certainly an inexpensive method of providing part of this aid.

COMMUNICATIONS

A COMMENT ON VARIABLE ANNUITIES

ROBERT M. SOLDOFSKY AND WALTER W. MCMAHON
State University of Iowa

VARIABLE ANNUITIES are the subject of considerable discussion by individuals who identify themselves with life insurance companies and security dealers. The paper by Mr. Albert Linton published in the May, 1956, issue of the *Journal of Finance* is a case in point. This comment does not attempt to marshall arguments for or against variable annuities, but is concerned only with the major factors determining the size of the payments to be made from a variable annuity fund during the payment period.

In Mr. Linton's Table 2, the assumption is made that the variable annuity payment would follow Standard and Poor's index of stock prices.[1] The other major factor influencing the size of the annuity payment, the cash dividends that will be received by and added to the annuity fund during the period of the annuity payments, is omitted. This is comparable to omitting interest on the standard annuity contract. The purpose of Table 2 was evidently to display the magnitude of the fluctuations in variable annuity payments in contrast to the absolute dollar stability of the payments made under the terms of a traditional annuity contract. Mr. Linton emphasizes that "irate and disillusioned policyholders" might write letters to insurance commissioners and even congressmen when payments fall under variable annuity contracts. Such pressure might have been (or may be) the opportunity for federal regulation of those life insurance companies that issue variable annuity contracts.

Column 1, Table 1, in this comment sets forth the fixed payment of $100 per month specified by Mr. Linton, Column 2 reproduces the assumed monthly payment made under a variable annuity contract as shown by Mr. Linton in his Table 2, and Column 3 presents a revised statement of the monthly payment under a variable annuity contract taking cognizance of the dividends received by the annuity fund during each year of the life of the annuity. The period 1926 to 1954 is the period selected by Mr. Linton.

1. M. Albert Linton, "Variable Annuities," *Journal of Finance* (May, 1956), p. 138.

TABLE 1

MONTHLY ANNUITY PAYMENTS FOR A TWENTY-NINE-YEAR ANNUITY CERTAIN UNDER ALTERNATIVE ASSUMPTIONS*

Year	Fixed Annuity Certain†	Standard and Poor's Stock Price Index with 1926 = 100‡ (Linton's Table 2)	Variable Annuity Certain§
1926	100	100	129
1927	100	118	144
1928	100	150	171
1929	100	190	198
1930	100	150	187
1931	100	95	151
1932	100	49	105
1933	100	63	93
1934	100	72	83
1935	100	78	88
1936	100	111	110
1937	100	112	126
1938	100	83	123
1939	100	90	113
1940	100	84	103
1941	100	76	105
1942	100	66	101
1943	100	87	109
1944	100	95	115
1945	100	115	129
1946	100	133	147
1947	100	116	144
1948	100	118	142
1949	100	115	142
1950	100	139	158
1951	100	167	185
1952	100	177	202
1953	100	179	199
1954	100	215	207

* This specific twenty-nine-year period, 1926–54, was used by Mr. Linton in his original presentation.

† The present value of monthly payments for a twenty-nine year annuity certain assuming interest compounded at the annual rate of 2½ per cent is $24,735. The actual rates achieved by insurance companies, including "dividends," may be either somewhat more or less than this.

‡ M. Albert Linton, "Variable Annuities," *Journal of Finance* (May, 1956), p. 138.

§ These variable annuity payments were computed as follows: it was assumed that $24,735 was invested in a variable annuity certain, the sum of which was to be exhausted at the end of 29 years. The original investment of $24,735 was selected in order to make the starting position of the variable annuity precisely equal to that implied for the fixed annuity paying $100 per month used by Mr. Linton as a basis for comparison. In making the variable annuity computations once each year to determine the size of the monthly payments during the succeeding year, it was assumed that the value of the portfolio followed Standard and Poor's index of 480 stocks (shifted to a 1926 base and using a moving average to center the index at the end of each year), and that the yields followed Standard and Poor's average stock yields for the same group of stocks. For each year the remaining capital sum less the payments made during the year was adjusted by the index of stock prices and added to the yield for that particular year figured on the average value of the capital sum during that year. This produced the value of the capital sum that was used to compute the size of the payments to be made during the following year. This capital sum was viewed each period as the present worth of the payments to be made per period in such a fashion that all payments to be made would be equal for the number of periods remaining and would exhaust the capital sum at the end of 1954, allowing for reducing the monthly payments by one-half year's interest. The attempt was made in all instances to give the benefit of the doubt to the fixed annuity certain with one possible exception. This exception is the assumption of zero administrative costs for both the fixed and the variable annuity.

According to Mr. Linton's presentation, the payments made under the variable annuity were less than those under the traditional contract in twelve of the twenty-nine years. The revised variable annuity payments fall below the fixed monthly payments of $100 in only three years. Furthermore, the lowest payment under the revised computation is $83 per month as compared with $49 per month shown by Mr. Linton. Certainly the intensity of the remarks in the policyholders' letters would be different if the variable annuity payments fell 17 per cent rather than 51 per cent below a norm established by the payment of a fixed number of dollars under a fixed annuity contract. Fixed annuity policyholders may well complain about the opportunities missed when they compare their $100 with the more than $200 monthly income in 1954 that might have been possible under a variable annuity contract.

In the computation of Column 3, Table 1, the advantages accruing to the variable annuitant during the accumulation period have been foregone. Mr. Linton recognizes this advantage in suggesting that the rate of growth of funds during the accumulation period invested in a well-selected, properly diversified group of stocks has been larger than the rate of interest achieved by the investment portfolios that are the basis for traditional annuity contracts.

We believe that such higher yields on equities are not dependent on inflation given the maintenance of our long-run rate of economic growth and that this relationship is very likely to continue. This position, however, must be left undefended since the space that may be alloted to a comment is very limited.

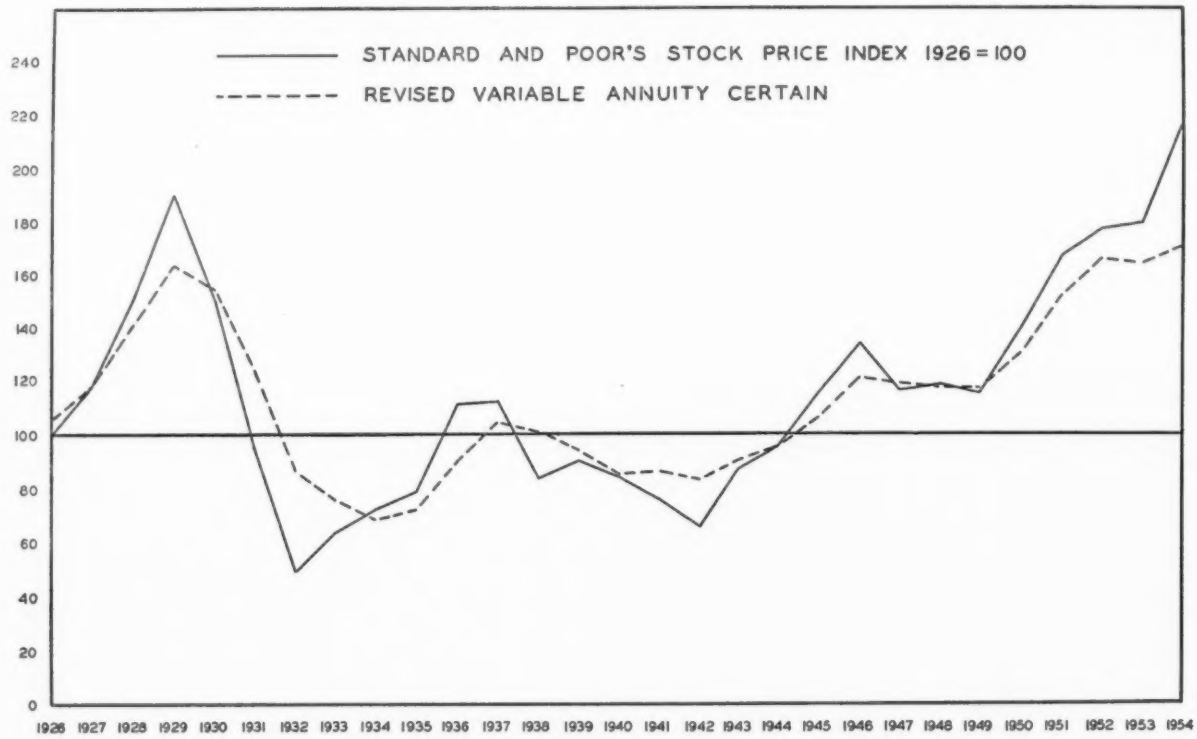
Let the case of the conservative be admitted, however. The holder of a variable annuity contract, the annuitant, would take more risk with respect to the number of dollars he will eventually receive. Life insurance companies, other financial institutions, and even the structure of the capital markets will be affected by any considerable growth in the use of variable annuities. Such changes are certain to follow whether the life insurance companies themselves or some newly developed type of financial institution handles variable valued annuities.

REPLY

M. Albert Linton
Provident Mutual Life Insurance Company of Philadelphia

Herewith is the chart representing the two sets of figures about which there has been discussion. In the article by Messrs. McMahon

CHART I


STANDARD AND POOR'S STOCK PRICE INDEX 1926=100
REVISED VARIABLE ANNUITY CERTAIN
240
220
200
180
160
140
120
100
80
60
40
20
0
1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954

and Soldofsky criticism was made of my use of the Standard and Poor's Stock Price index. In its place they produced a series of figures in Table 1 under Variable Annuities Certain. The difficulty with those figures is that they start out with 129, whereas had, say 4¼ per cent, a rate of interest used by insurance companies in computing annuity rates in 1926, been used for computing the fixed annuity certain, the 129 would have been replaced by 106. Had that been done, a different series of values would have been obtained.

This can be seen from the accompanying chart. The solid line represents the Standard and Poor Stock Price Index which I used. The broken line represents the revision of the McMahon-Soldofsky Variable Annuity Certain figures starting with 106 in 1926.

Looking at this diagram, I do not think the Standard and Poor index gives a misleading picture. The Variable Annuity Certain figures must be achieved by carrying out exactly certain routines of investment which might or might not be realized in practice.

While the method proposed by Messrs. McMahon and Soldofsky represents a refinement, I feel that the simple index of stock prices gives a fair idea as to what is likely to happen under variable annuity contracts. Each illustrates in a general way what we are trying to demonstrate.

ABSTRACTS OF DOCTORAL DISSERTATIONS

MONETARY THEORY IMPLICIT IN CAPITAL THEORY*

ANTHONY COSTANTINO
State University of Iowa

THE "CIRCULAR FLOW" is idealized here as a set of service-sources exhausting themselves in the rendering of services, which in turn are co-ordinated to the production of new sources. Depending upon the opportunity and inclination of persons to economize, goods are allocated and valued relatively so that, at the margin of every available alternative allocation, whatsoever good is accorded equal significance. Similarly, by substituting equivalent values, comprehensive *economic* adjustment is secured in the relative valuations of goods when the value of whatsoever good equals the *cost* of that good. So, in a money-exchange economy, the value of whatsoever good is measured at its money price. In these ideal circumstances, if borrowing and lending is an economic activity, price of loan must equal cost of loan.

Suppose cost and, hence, price of loan were nil. Every service-source would acquire valuation equal to the value of all services to be afforded by the source. For persons would become indifferent whether to secure services directly by purchase, or through loan, rental, or ownership of the source. If, however, cost of loan were positive, loan of the service-source would not be economic unless the aggregate value of its services exceeded the value of the source by as much as the cost of loan. In comprehensive economic adjustment, excess of service-value over value of source exhausted is *net* value-productivity of the source, is equal to cost of loan, and equals: *interest*. The interest rate, or cost per value unit of loan per standard interim of time, would be a derived function of the level of borrowing and lending. This function is hypothesized to be a declining-per-unit cost curve. Accordingly, extensions of borrowing and lending need not face increased rates of interest but for constraints imposed by sanction of convention and authority upon extensions of credit and, hence, money creation by banks.

* A dissertation completed at the University of California in 1956.

In consequence of interest rate change, *economizing* would influence comprehensive restructuring of the economy. For, analytically, interest rate fall requires increase in value-ratio of sources to their services; interest rate rise requires decrease in this ratio. But the relative time-rates of adjustment that various economic magnitudes make to interest rate change may be incompatible in fact with hitchless transition. Consequently, in a money exchange economy, pressures of adjustment to interest rate change are shunted initially to affect employment and the value of money. In these circumstances, monetary authority addressed to supporting high employment and avoiding inflation is well advised (1) to cause the interest rate to fall to encourage employment and support prices against fall, or (2) to cause the interest rate to rise to discourage employment and support the general value of money against fall.

AN INVESTMENT ANALYSIS APPROACH TO STOCK LIFE INSURANCE COMPANIES*

EDWARD AXEL NELSON
Baylor University

Little has been written to guide investors in their quest to select common stocks issued by life insurance companies offering investment potential. This study sets forth an outline covering the major areas for analysis and applies the outline to the industry. Emphasis is given to those unique features resulting from the industry structure.

The approach covers five sectors, industry life cycle, the company's position within the industry, earnings and dividends, financial statements, and management. First, the life insurance industry's life cycle was examined to determine its profitability for investors. After establishing the growth-phase characteristics of this industry, the other areas were presented to disclose what information was available and how to interpret these facts.

Within the company, home office, and field force qualities were investigated to show which ones held promise of future profitability. The competiitively superior companies tend to be the life corporations that make the earliest and greatest use of the favorable industry trends.

In the presentation of earnings and dividends, two characteristics were disclosed, the consistently low pay-out ratio and the general tendency to distribute stock dividends. To approximate the future long-run earnings for any life company, the past record for eleven years should be studied, 1945 through 1955. This is a representative cyclical period for the industry.

Company financial statements offer quantitative facts to support the judgments. The company's annual report to owners, or to policyholders, emphasizes the management's viewpoint. However, it is the annual statements filed with the state authorities that contains carefully checked information, ready for the analyst's use. A cautious study of the assets and the liabilities is necessary, for the life company must be approached through its balance sheet.

Next, the management to be evaluated include the directors, com-

* A dissertation completed at the University of Missouri in 1956.

pany officers, and department heads. This area exposes the comparatively low salary range for company executives, this being a regulated industry. Some fringe benefits are offered. Judgments based on qualitative characteristics should measure management's effectiveness.

The study then turns to external influences. Among these there is the potentially favorable future for an increased interest in common shares of life insurance companies. Yet, certain industry trends were discovered which could dampen or destroy the bright outlook for the industry. Therefore, the investor-analyst is warned to observe future patterns within the individual trends.

For the average investor, who may be interested in a capitalization of earnings formula, the study ended with this summary. Under 1955–56 conditions, a starting capitalization value of 14 is adjusted by a plus 3 for the very favorable industry position. For primary companies, inherent strength rates a plus 2 to a plus 4; for secondary companies, inherent strength or weakness necessitates a plus 1 to a minus 1. The resultant capitalization factor can be adjusted for book value of shares or for potential stock dividends.

This final capitalization figure is multiplied by the average earnings per share to give a dollar intrinsic value. The earnings used should be the average earnings for the period 1945–55, for they represent best a future cyclical period. At this point, the intrinsic value is compared to the current market price, to judge investment profitability. The investor made many judgments, based upon facts, and has convinced himself of the real worth of this life insurance company's common stock.

THE CURRENT BANK-MERGER MOVEMENT: AN ECONOMIC APPRAISAL*

ROBERT H. MARSHALL

University of Arizona

BANK-MERGER activity during the period 1946–56 is explicable primarily in terms of the banking industry's attempt to adapt itself to the changing institutional complex in which it operates.

Significant economic factors contributing to mergers include: (1) moves by banks to strengthen market positions through diversified operations, particularly in the growing area of "retail banking"; (2) adaptation to appreciable population shifts into outlying, suburban areas through the acquisition of "ready-made" banking facilities, which are often more legally accessible than *de novo* offices; (3) adjustment to the enhanced role of commercial lending which has prompted banks to merge to counteract lagging growth in deposits and business, to expand legally stipulated loan limits, to meet rising competitive pressure of non-bank lenders, and to forestall officer shortages; and (4) attempts to offset the undervaluation of bank shares and to augment financial prestige.

Major non-economic factors inherent in mergers include: (1) the gradually eased laws governing bank mergers, modified by the absence of explicitly stated benchmarks to be used in appraising mergers; (2) the varied nature of states' laws governing the scope of branch banking, and the more stringent requirements for satisfying the "need" criterion in the establishment of *de novo* branches as compared with the acquisition of branches via merger; (3) personnel-management factors that promote the absorption of relatively small banks by larger banks that follow a generally more attractive, enlightened personnel policy.

The study showed that banking concentration has been little affected by the bank-merger movement. The 100 largest commercial banks currently hold a smaller proportion of United States banking resources than they did before World War II. Furthermore, the absolute and relative standing of intermediate-sized banks has increased in recent years.

The monopolistic-competitive market structure of commercial

* A dissertation completed at the Ohio State University in 1957.

banking and its highly regulated, supervised nature require that an appraisal of bank-merger activity examine additional factors besides the state of numerical competition in an area.

Aspects of a "workable competition" approach in evaluating bank mergers include: the nature of the assets, capitalization, and management of the resulting bank; the composition of the prospective absorbed bank's assets and management group; the impact of the merger plan on the participating shareholders; the effect on the banking convenience and needs of the community concerned; and the meeting of all legal requirements.

One recommendation suggested statutory amendments requiring the initial consent of a federal bank-supervisory agency for bank mergers. Consent would be necessary for any merger transaction that results in a continuing or absorbing bank subject to federal supervision.

In the examination of any merger proposal, the amended laws should explicitly require the consideration of both competitive effects and relevant banking factors.

It was further recommended that the establishment of a unified national banking system would permit at least the imposition of uniform state-wide branch banking. The latter modification would facilitate the regulation of bank mergers and provide for a more viable banking system.

An estimation of the various elements affecting the future extent of the bank-merger movement indicated that, on net balance, the factors reducing the impetus of the movement are growing in force.

VALUATION OF RAILROADS FOR AD VALOREM TAX PURPOSES*

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Assistant Professor of Economics
Wayne State University

DESPITE a variety of statutory and judicial definitions of "value," the economic concept of market value is heavily relied upon by the courts in property tax cases. The most reasonable basis for determining a railroad's market value is according to the "unit rule," i.e., an appraisal of an integrated property without reference to the value of its component parts. The preferred unit is one of *use:* all property used in railroad operations is a part of the going concern and thus contributes to its market value.

Because sales of entire railroads are lacking, the assessor bases his value estimate on indirect evidences of value. These are primarily capitalized earnings, stock and debt value, and depreciated original and reproduction cost.

In using the capitalized earnings method "net railway operating income" averaged over the preceding few years is usually the best evidence available of a railroad's earnings prospects. A strong case can be made for capitalizing net income *before* depreciation and taxes, making allowance for these expense items by augmenting the basic net income rate of capitalization.

The most satisfactory rate of capitalization is one which reflects the actual return demanded by suppliers of investment funds. This figure can be approximated by first determining the rate for each class of railroad security and then arriving at a composite market rate by taking a weighted average of the several separate rates.

Finding the rate for common stock earnings, however, is complicated by the fact that railroads ordinarily distribute as dividends only about 40 per cent of their income available for common stock. Traders in railroad common stock, it was found, value dividends about three times as highly as they do undistributed earnings. It is suggested that the rate at which the market capitalizes the dividend segment of common stock earnings is the appropriate one to use when estimating the value which the prospective buyer of a railroad

* A dissertation completed at the University of Wisconsin in 1955.

would place on *all* common stock earnings. This judgment is supported by the fact that traders in peripheral shares of common stock of railroads with a high (about 75 per cent) payout policy tend to capitalize all common stock earnings at this *dividend rate of capitalization.*[1]

The great merit of the stock and debt value evidence lies in its relative objectivity—a valuation derived by this method is based on actual market place transactions. This advantage is somewhat diminished, however, because of the necessity of excluding from total stock and debt value the worth of non-operating property, because the price of traded shares does not reflect the value associated with corporate control and because earnings of low payout railroads are heavily discounted in the market.

Cost could be justified as a good evidence of a railroad's market value only if it served as an effective rate base, a condition which usually does not prevail. Proponents of its use argue, however, that the billions of dollars of carrier investment since World War II must be presumed to be worth what it cost. While a case can be made for including this measure in the family of value evidences, it should be given relatively little weight in those cases where a considerable amount of obsolescence is apparent.

Use of a standard valuation formula would be desirable from the standpoint of administration, but wide differences among railroads necessitates heavy reliance on assessor judgment in weighting the value evidences. To avoid sharp fluctuations in assessments, reflecting sizable changes in a railroad's market value from one year to the next, use of a five-year moving average of actual market values is recommended.

1. This rate should not be confused with the yield concept ordinarily applied to dividends. The dividend rate of capitalization is found (by multiple correlation) by relating dividends not to market price but rather to that portion of market price associated with dividend payments.

THE DEVELOPMENT OF CENTRAL BANKING AND THE FINANCIAL CRISES IN MEXICO*

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University of Michigan

THE BANKING SYSTEM of Mexico was virtually destroyed by the Mexican Revolution (1910–18) and the Mexican money supply was reduced to the insufficient metal currency of the nation. The victorious leaders of the Revolution desired to create a government-controlled central bank as the center of a new banking system. Lack of funds or credit compelled them to delay this action until 1925.

The Bank of Mexico was established in 1925 and the government purchased a majority of the stock. The Bank functioned, for the first five years of its life, both as a central bank and as a commercial bank. Gradually, thereafter, it evolved into an effective central bank and gave up its commercial banking activities.

The Bank of Mexico gradually increased its strength and its service to the nation largely as a result of its responses to a series of crises in the Mexican economy. Its first response to depression, in the 1930's, was to restrict the expansion of silver money in order to maintain the exchange rate. At the same time the public began to accept Bank of Mexico notes in significant quantities. The Bank was then in a position to employ an expansionary policy based upon note issues. Such a policy was adopted in 1932 and contributed much to the growth of the Mexican economy, but it left the peso largely unsupported on the foreign exchange markets.

In 1935 there was a rise in the price of silver. When this price exceeded seventy-two cents per ounce, Mexican silver coins were worth more as a commodity than as money. Mexico demonetized silver and called it in with the hope of selling it. Bank of Mexico notes became the only legal tender money in Mexico and the position of the Bank was greatly strengthened. With the passage of the law of 1936 the Bank of Mexico became an effective central bank with the power and authority to influence the economy significantly.

In the late 1930's the Mexican government was engaged in a program of development and reform. Land was redistributed to the villages, foreign-held oil properties were expropriated, and the rail-

* A dissertation completed at the University of Wisconsin in 1956.

roads were nationalized and turned over to the workers. Schools and roads and other service facilities were built. The Bank of Mexico was engaged in financing these programs, but once more the foreign exchange rate suffered. The reforms discouraged foreign investments and prejudiced foreign markets against Mexican exports so that the Mexican balance of trade could not be maintained.

The development of the Bank of Mexico was largely determined by forces outside itself and often outside of Mexico; forces over which it had little or no control. Gradually, however, its capacity for independent action was increasing.

The Bank of Mexico faced an almost perpetual dilemma; whether to finance economic development at home and allow the peso to fall in value on the foreign market, or to support the peso and restrict the economic development and growth of the country. Between 1925 and 1940, the peso fell from a rate of about two to the dollar, to almost six to the dollar.

The nation could not escape from this dilemma by banking and monetary policy alone.

Fiscal and foreign trade policy might have been used together with monetary policy to support the value of the peso, and at the same time to assist in the economic development of the country.

Further studies should be made of the operation of the Bank of Mexico after 1940, and of the fiscal and foreign-trade policies of Mexico since the Revolution.

THE INCOME LEVEL AND MONETARY-FISCAL DEVICES, WITH PARTICULAR REFERENCE TO RAISING INDIVIDUAL INCOME TAX REVENUE TO PREVENT INFLATION*

IRA C. CASTLES
Wilmington College

IF WE ASSUME that the aggregate supply schedule is approximately stable and that "full employment" prevails, changes in the aggregate demand schedule for goods and services (made possible by changes in the effective quantity of money) will generate only minor changes in the flow of real product. Most of the energy of such shifts in aggregate demand will be absorbed in inducing violent changes in the price level. Such changes in the price level are evidence of instability in the value of the monetary unit.

The maintenance of a stable value for the dollar (even though slow or gradual changes might be tolerated with little evidence of strain) is here urged as an implicit and highly important function of the federal government. Assuming "full employment" as a norm, such a policy calls for sacrifices or build-ups of specified elements of aggregate demand in conditions wherein the pressure is inflationary or deflationary respectively. Specifically, such a policy calls for sacrifices of consumption and peacetime investment in times of heavy government spending for war purposes. In the aftermath of war, with government spending falling away, the policy might call for increased consumption and private investment. In periods of peacetime investment booms such a policy calls for curtailment of consumption and government spending. In the reverse situation of an investment deficit, increased consumption and government expenditure may become appropriate.

Consumption and investment levels can both be effectively influenced by changes in the tax collections which affect disposable personal and disposable business income. Further influence can be exerted by changes in the propensity to consume and invest out of the respective disposable incomes. The control of the third element of aggregate demand, government spending, is a matter of budgetary management.

* A dissertation completed at the University of North Carolina in 1956.

Under conditions of stable aggregate supply with full employment, the prevention of average-price instability resolves itself into the prevention of violent fluctuations in total demand. It is within the power of the Federal Reserve System and the federal Treasury jointly to prevent major fluctuations in aggregate demand by preventing fluctuations in the effective quantity of money (the product of the money supply and its income velocity).

Analytically, the problem of preventing inflation or deflation is the maintenance of national income at the full employment level. Eight diagrams are presented to show various graphic ways of looking at national income determination. They reveal a reduction of inflationary pressure by increasing tax revenue. They could be reversed to show a countering of deflationary pressure. The change in tax collection in either case must be somewhat greater than the autonomous change in demand.

Inflation-deflation control is feasible. Among devices other than the income tax that seem especially worthy of consideration for emergency use are: traditional monetary controls of the Federal Reserve System, public voluntary purchases of government bonds, compulsory bond purchases to the extent of a portion of any increase in income, and a personal tax on spending.

ACTIVITIES OF STUDENT AFFILIATES

THE UNIVERSITY OF CHICAGO

The Finance Students Association had a productive and enjoyable year.

Early in the year, some recent graduates who are now working in the field of finance spoke at a dinner about their positions and gave some practical hints about job-hunting in financial institutions.

Beryl Sprinkel, economist at the Harris Trust and Savings Bank, spoke to the Association about the Federal Reserve System and its policies. William H. Lowe, treasurer at Inland Steel Company, spoke on planning for capital expenditures in the steel industry. There was a field trip to the Signode Steel Strapping Company. The members were shown through the plant and were given a demonstration of the method of presenting the financial condition of the company to the board of directors.

Officers for the year were Jacob B. Michaelsen, president; and William J. Stoddart, secretary.

UNIVERSITY OF CONNECTICUT

The Connecticut chapter devoted the bulk of its time during 1956–57 to the handling of its modest investment portfolio. Some $500 earned by sponsoring an investment lecture series in 1955 has been invested in stocks listed on the New York Stock Exchange. Each spring, the current group liquidates its holdings and reinvests the funds in the stocks of its choice. Several months of study and discussion always precede the final action.

The result of the 1956–57 operation was an even break on capital invested, including all commissions and taxes. This seemed quite good to the chapter members, in view of the general decline of stock prices. In addition, a dividend return of 5.6 per cent was realized. Half the dividend income was donated to the University Library for the purchase of books on finance.

Mr. I. S. Rossiter of Standard and Poor's executive department addressed the chapter in December on rating securities. In April, a joint meeting with the Insurance Club was held at which Mr. Walter Rapp, executive director of the Mutual Savings Bank Life Insurance Fund of Connecticut, was the principal speaker.

The officers for 1956–57 were: president, George Coates; vice-president, Joseph Connolly; secretary, Barbara McGrath; treasurer, John McMahon; sponsor, Dr. William N. Kinnard, Jr.

DE PAUL UNIVERSITY

The Finance Club of De Paul University found itself after last June's graduation with its ranks sadly depleted. Starting with a new core of members whose

interest was high, the Club entered into a rather active schedule and enthusiasm continued over the year.

In October the Club sponsored a meeting at which Mr. Frank Donnelly, an insurance contract broker, spoke on "Looking at Insurance from the Inside." In December Mr. William Clark, the finance editor of the *Chicago Tribune,* met with the Club and discussed "Capitalism, Its Present Meaning and Application." Mr. Al Stevens of Daniel Rice and Company spoke on securities analysis in February.

In March the senior members of the Club attended a seminar held at the Continental Illinois National Bank and Trust Company of Chicago. The Club was pleased to find the local bank executives so receptive to any suggestions that were offered and aware of the need for closer working relations between the banks and the universities in order to present to the student the many opportunities which the banking field offers to students of finance. The social evening, with steaks and fellowship served in abundance, closed out the year.

Officers elected for the 1957 fall semester were: president, Dan Hamilton; vice-president, Michael Kelly; secretary, Keven Hallagan; treasurer, Don Olson.

UNIVERSITY OF FLORIDA

The University of Florida chapter under the sponsorship of Professor James G. Richardson, the faculty advisor, has pursued a policy of having prominent men in the field of finance speak before the members of our organization. The program has been designed to acquaint the student with the practical and operational aspects of finance. During the 1956–57 school year the Association was under the leadership of William Hess and Robert F. Bannister. The topics discussed by the guest speakers ranged from "The Management of a Bank Bond Portfolio" by Richard M. Kowalski, assistant vice-president of the First National Bank of Miami, to "Branch Versus Unit Banking in Florida" by Dr. Charles A. Matthews of our faculty.

Among the other activities of the Association was a field trip to Jacksonville, Florida, during which the members toured the Federal Reserve Bank, Gulf Life Insurance Company, and A. M. Kidder, a brokerage firm. During the latter part of the year the Club sponsored a panel discussion in finance in conjunction with the annual "Business Day" of the College of Business Administration. Currently, and as a project for the coming year, the chapter is organizing an investment fund which is to be invested and managed by student members.

Twelve members of the Association received scholarships from the Florida Bankers Association's Educational Foundation. They were Miss Joan H. Johnson, David Allen, Robert F. Bannister, James W. Crews, Alan G. Divers, Charles C. Hood, James H. Horner, Norman D. Ladrie, Chester H. McNulty, John O'Brien, Rufus C. Vaughn.

Elected officers for the 1957 fall semester include: James Horner, president; William Crews, vice-president; Vaughn Gardner, secretary; John O'Brien, treasurer.

UNIVERSITY OF ILLINOIS

The University of Illinois Finance Club's objectives of furthering the field of finance as a profession and as a topic of interest have been well achieved this past

year. Increased student and faculty membership has enhanced the group's ability to obtain top flight representatives of finance.

In May, the Finance Club was fortunate to make a field trip to the Chicago offices of A. C. Allyn and Company, Inc., and to have Mr. W. B. Hamilton, director and secretary, speak to the group at a later meeting. Both of these events were very enjoyable and interesting to those students and faculty members able to attend. Mr. Burton C. Hurd, a local investment dealer, was again able to give two very informative talks.

The Finance Club plans to further increase the number of out-of-town speakers during the next academic year. The members feel that the great wealth of financial knowledge in Chicago can be very important in the training of future members of the field. Plans are now in progress to arrange a program of this sort.

Officers for the next semester will be Bill Pickard, president; Don Buch, vice-president and treasurer; Rich Koeller, vice-president and secretary.

INDIANA UNIVERSITY

The Graduate Finance Club at Indiana University expanded its membership during the 1956–57 school year to eighteen enthusiastic members. The over-all program for the year achieved a balance between academic and social activities.

On one occasion club members visited the American Fletcher National Bank of Indianapolis, and were afforded the opportunity to sit at the directors' table with the bank's senior officers and participate in a "no-holds-barred" discussion of commercial banking problems and operations. Other major club activities included a lecture and discussion by Dr. John K. Langum, president of Business Economics, Inc., on the subject of "The Money Supply and Business" and a discussion session on the role and practices of commercial banks in an expanding community to Messrs. Barker and Dawson, vice-presidents of the National City Bank of Cleveland. A number of other meetings were held at various faculty members' homes which provided opportunities for discussions of general topics of current interest.

Officers during the past year were: Donald H. Sauer, president; J. B. Black, Jr., vice-president; and William C. Dieter, secretary-treasurer. Professor Harry C. Sauvain served as faculty sponsor.

LOYOLA UNIVERSITY

The Econ-Finc Society at Loyola University conducted a very extensive program of professional activities during the past year. Six guest speakers met with the Society including three who spoke at special assemblies for commerce students. The speakers were from the Federal Reserve Bank of Chicago, the Household Finance Corporation, the Investment Advisory Staff of Brown Brothers, Harriman and Company, the Chicago Title and Trust Company, the Dixie Corporation, and the Chicago branch of the Social Security Administration. The Society members also took two tours, one through the Continental Illinois National Bank and Trust Company of Chicago, and another through the Chicago offices of Merrill Lynch, Pierce, Fenner and Beane brokerage firm.

This year membership reached thirty-five active members, three of whom at-

tended the Midwest Finance Convention held in Milwaukee in April. Two important projects of the semester were writing of the bylaws for the organization and investment of a portion of membership dues in behalf of the Society. Both committees were headed successfully by John Nichele.

New officers elected for the coming year are: president, Steve D. Stremski; vice-president, Thomas E. Split; secretary-treasurer, Richard E. Urchell; and Union representative, Harold Fremgen.

MARQUETTE UNIVERSITY

The chapter had a full professional program with many stimulating speakers during the past year. A number of tours were also taken in Milwaukee and Chicago. Each semester included a field trip to Chicago where tours were made of the Chicago Board of Trade, the Midwest Stock Exchange, the Federal Reserve Bank of Chicago, and the First National Bank of Chicago. These trips enjoyed good attendance by the members of the Club and resulted in much further discussion of the activities of these institutions at later chapter meetings.

Speakers at meetings during the year were: Mr. Hal Keuhl, assistant cashier of the First Wisconsin National Bank, who spoke on "Operations of a Commercial Loan Department"; Mr. Ed Ricker of the Milwaukee Company, a local investment firm, "Why an Investment Trust"; Mr. Charles L. Wiese, public relations manager of the Allstate Insurance Company, who explained the field of automobile insurance rates; and Dr. Robert Earnest, assistant professor of finance and the chapter's faculty moderator, who talked on "The Management of Your Personal Finances."

The chapter is looking forward to another successful year next year.

MIAMI UNIVERSITY

With the aid of Dr. Frederick Amling and under the direction of the officers, the Miami University Finance Club completed a very successful year. The Club not only maintained a top program for members but also functioned as an informational service for other students and towns-people from Oxford.

Starting the year off in the fall with a big push, the Club sponsored a series of five lectures by brokerage firms from Cincinnati. These lectures, on the subject of investments, were planned and co-ordinated through the New York Stock Exchange. Attendance was extremely satisfactory, reaching approximately one hundred and twenty-five at one of the lectures. Coffee and an informal session after the lectures provided members a chance to become personally acquainted with the particular lecturer and brokerage firm.

During the spring the Club held a casual dinner party for members and guests. The dinner was initiated for the purpose of honoring the graduating Seniors of the Club. The Senior members talked of their future life's work.

The following officers were elected to serve through the semester of 1957–58: Bob Cottington, president; Jerry Zukowski, vice-president; Bob Arnold, secretary; Roger McIntyre, treasurer; Ted Jensen, Earl Waltze, and Larry Patterson, program chairmen. Past officers, Ralph Gelder, Ralph Kohring, Roger McIntyre, and Bob Reynolds, helped the Club greatly in 1956–57.

MICHIGAN STATE UNIVERSITY

The Finance Club at Michigan State University has been very active during the 1956–57 school year. Attendance at the meetings has been unusually high and interest in the Club has been stimulated by excellent talks at the meetings. Speakers during the year have included men from Merrill Lynch, Pierce, Fenner & Beane, the Smith, Hague & Co., the Federal Reserve Bank of Chicago, the National Bank of Detroit, and the Detroit Edison Company.

The club invited members of Beta Alpha Psi to one of its meetings, at which time Mr. W. L. Black from the Smith, Hague, & Company discussed "The Over-the-Counter Market." In return, Beta Alpha Psi invited the Finance Club to one of its professional meetings.

The Club also enjoyed a day touring the National Bank of Detroit. The bank furnished guided tours through the bank, entertainment, lunch, and very informative talks about the bank's operations and the opportunities of a career in banking.

Delegates from the Finance Club at Michigan State have been instrumental in organizing a Business Council to co-ordinate the activities of all the organizations in the School of Business and Public Service. This Council will be a co-ordinating unit of delegates from all business clubs to provide a means of helping each other and working together.

UNIVERSITY OF MINNESOTA

The student chapter at the University of Minnesota has had a very enjoyable and stimulating year. Meetings have been held monthly and speakers from various financial houses, insurance companies, and industrial firms in the Twin Cities area have led discussion with the members.

Early in the year the Club members made a field trip through the Minneapolis Grain Exchange and were entertained by the Exchange. Another field trip has been planned for the members to tour one of the large brokerage firms located in Minneapolis. An annual banquet has been held by the chapter every spring in recent years, and the Club members are looking forward to the social occasion this June.

The membership of the Club has been increasing rapidly in the last several quarters and plans are being made for more formal planning of meetings and speakers for next year as a result.

Officers this spring are: president, Edward Clark; vice-president, William Oxten; secretary-treasurer, Spence Sokolowski.

NEW YORK UNIVERSITY

The student chapter of the American Finance Association at New York University had a very active and enjoyable year. We conducted a series of meetings on job opportunities in the field of finance and various representatives from different financial houses in and around the New York community met with student members of the chapter.

During Club Week we had a ticker tape installed from the New York Stock

Exchange. Much financial literature was studied and many questions were raised in connection with the activities of the brokerage houses and operations occurring on the floor of the exchange in executing orders for consumers.

We also had several other meetings during the year at which time speakers from different firms in the field of consumer finance and from firms engaged in portfolio management work discussed their problems with the group.

Professor Rolf E. Wubbles of the Booking and Finance Department is the new club advisor. Dr. Julian Buckley, our former advisor, is now assistant dean at the Graduate School of Business of Columbia University.

NORTHWESTERN UNIVERSITY

The highlight of our Club's activities this year at Northwestern University was a tour and program at the First National Bank of Chicago. The Club members were also invited to the First National Conference of Bank Correspondents, a conference attended by nearly 2,000 bankers from all over the United States.

Speakers from various fields have addressed the Club members in regular meetings. In addition to speakers from various financial and industrial firms in the Chicago area, talks have been given by speakers from the Chicago Board of Trade, the Midwest Stock Exchange, and the University of Chicago.

Individual members of the Club have been attending meetings of the Investment Analysts' Society of Chicago. They are taking advantage of every opportunity to attend these meetings regularly.

The Club has been very active in academic as well as extracurricular activities of the school. It has plans for a faculty-student mixer for the professors of the Finance Department at Northwestern and student members of the Club.

The newly elected Club officers are: president, Brierly Anderson; vice-president, William Bennetham; secretary, Robert Koike; treasurer, Herbert Rambow; social speaker selection chairman, Richard Cohn.

UNIVERSITY OF PENNSYLVANIA

During the scholastic year of 1956–57 the Finance Society of the Wharton School presented to the students four speakers interested in the fields of banking, investments, and real estate; co-operated with the Finance Department of the Wharton School in planning a banquet and coffee hour, obtained admission for interested students and faculty members to the United States Savings and Loan League Convention, held in Philadelphia; and planned a field trip to the Bethlehem Steel Company in Bethlehem, Pa.

The best meeting of the year was the Finance Banquet when the speaker was the outstanding, energetic, Louis J. Glickman of leaseback fame. This is an annual banquet which faculty and students support with unusual fervor. Mr. Glickman discussed the causes of profitableness which have made the leaseback so popular as a means of financing.

With the Propellor Club (Foreign Commerce Society) of the Wharton School the Finance Society made its mark in history by electing a woman undergraduate as an officer. This was the first year since September, 1954, when women were

admitted to the school, that they were represented as officers of any of the societies.

The officers of the Society were Kenneth Braude, president; Steven Pick succeeded by James F. Levy as vice-president; Elizabeth M. Smith, secretary; and Stanley Burwick, treasurer. The officers for next year will be Stanley Burwick, president, Peter Fishel, vice-president, secretary to be elected, and Jack Pinheiro, treasurer.

TEMPLE UNIVERSITY

The student affiliate of the American Finance Association of Temple University has in the past year enjoyed increased membership and activity. Our policy of activities has been outlined to emphasize diversification in the field of finance. This we have achieved. Our events have included a talk here at the University on "The Tight Money Market" by Mr. Edward Aff of the Philadelphia Federal Reserve Bank and an evening panel discussion on "The State of Consumer Credit" by Drs. Meinkoth and Harms and our advisor Dr. Jackendoff.

Our field trips included a tour of Provident Trust Company of Philadelphia and a talk there on vocational opportunities for college graduates in commercial banking. We had an evening visit to Reynolds and Company followed by a discussion of the different phases of investment banking. One of our very interesting field trips was a visit to Dupont's chart room followed by a discussion of their internal financial control techniques. Recently a group of twenty members of the Society accompanied by our advisor Dr. Jackendoff and Dr. Chamberlin, both of the finance department, enjoyed a tour of the Philadelphia Federal Reserve Bank, preceded by a talk on analysis of bank statements by Mr. Joseph Campbell of the bank examination department.

The society will take its annual trip to the New York Stock Exchange very soon. This full day's trip is taken in conjunction with the finance department and all students are invited.

Our future activities will be centered around our basic objective which is to create an interest and to gain knowledge in the field of finance.

VILLANOVA UNIVERSITY

The chapter of the American Finance Association at Villanova University was formed in September, 1956. Meetings have been held twice a month during the year. Speakers from various brokerage firms and insurance companies have stimulated much discussion at the meetings.

In January the chapter sponsored a field trip to New York where the members visited the New York Stock Exchange, the Federal Reserve Bank, and the main offices of Merrill Lynch, Pierce, Fenner and Beane. This trip enjoyed 100 per cent member participation and all concerned agreed it was an educational experience in every respect.

In March the chapter held the first of what it expects to be an annual banquet. A delegation of the Joseph H. Reese Agency of the Penn Mutual Life Insurance Company spoke at the banquet.

As the school year draws to a close the election of new officers and a chapter

picnic are in the offing. The chapter has given much enjoyment along with education, and all the members express that they are very happy to have become affiliated with the American Finance Association. Besides being a nationally recognized chapter, this membership offers new ideas for stimulating activities and the students look forward to the coming academic year.

UNIVERSITY OF WISCONSIN

To open its year's activities the Finance Society of the University of Wisconsin set up a booth at the annual Commerce Turn-out which is sponsored by the Department of Commerce. The booth depicted a post of the New York Stock Exchange and it sold shares of stock representing memberships in the Society. On January 10 and 11 the Society held a field trip for its members. They toured the Chicago Board of Trade, the Continental Illinois National Bank & Trust Co., the Midwest Stock Exchange, and the Federal Reserve Bank of Chicago. The members were greatly impressed by the hospitality of these institutions as well as by their operations. The Society was fortunate in having a series of interesting and informative speakers at its dinner meetings during the year. They were: Professor Frank M. Graner, University of Wisconsin; William Johnson, Northwestern National Insurance Co.; Dan H. Keller, Thomson & McKinnon, investment brokers; Ernest J. Kocsis, Guaranty Trust Co. of New York; Frank Morton, Commissioner, Wisconsin State Investment Board; Raymond Price, Bell & Ferral, investment brokers.

AMERICAN FINANCE ASSOCIATION
REGIONAL ORGANIZATION

Following is a list of the chairmen of regions, insofar as appointments have been made, and membership of regional committees, insofar as reported, on August 1.

Region 1: Maine, New Hampshire, and Vermont

Chairman, PHILIP H. LOHMAN, University of Vermont, Burlington, Vt.

Region 2: Eastern Massachusetts (Barnstable, Bristol, Dukes, Essex, Middlesex, Nantucket, Norfolk, Plymouth, and Suffolk Counties) and Rhode Island

Chairman, WALLACE P. MORS, Babson Institute of Business Administration, Babson Park, Mass.

CHELCIE C. BOSLAND, Brown University, Providence, R.I.
ROLAND ERICKSON, Guaranty Bank and Trust Company, Worcester, Mass.
GORDON DONALDSON, Graduate School of Business Administration, Harvard University, Boston, Mass.
REVEREND W. SEAVEY JOYCE, S.J., Boston College, Boston, Mass.
LYNN SCHOONOVER, Northeastern University, Boston, Mass.

Region 3: Western Massachusetts (Berkshire, Franklin, Hampton, Hampshire, and Worcester Counties); Eastern New York State (Jefferson, Lewis, Oneida, Madison, Chenango, Broome Counties, and east, except metropolitan New York); and Connecticut.

Chairman, JAMES P. LUDTKE, University of Massachusetts, Amherst, Mass.

KATHERINE FINNEY, Connecticut College, New London, Conn.
DAVID W. GORDON, Monarch Life Insurance Company, Springfield, Mass.
ALBERT O. GREEF, University of Connecticut, Storrs, Conn.
MARVIN B. RODNEY, 1278 Central Avenue, Albany, N.Y.
HENRY C. WALLICH, Yale University, New Haven, Conn.
KOSSUTH M. WILLIAMSON, Wesleyan University, Middletown, Conn.

Region 4: Metropolitan New York

Region 5: Delaware, New Jersey and Eastern Pennsylvania (Third Federal Reserve District)

Co-chairmen, DAVID H. MCKINLEY, Pennsylvania State University, University Park, Pa.
FREDERICK C. RIECK, The Philadelphia National Bank, 421 Chestnut Street, Philadelphia, Pa.

EDWARD A. AFF, Federal Reserve Bank of Philadelphia, Philadelphia, Pa.

CLAUDE L. BENNER, Continental American Life Insurance Co., Wilmington, Del.
JOHN C. DANIEL, Rutgers University, New Brunswick, N.J.
WILLIAM B. EAGLESON, Girard Trust Corn Exchange Bank, Philaphia, Pa.
E. HAROLD SCHOONMAKER, 80 County Road, Tenafly, N.J.

Region 6: Maryland, Virginia, and District of Columbia

Region 7: North Carolina, South Carolina, and Georgia

Chairman, FREDERICK G. JOERG, Duke University, Durham, N.C.

Region 8: Florida (except west of Tallahassee) and Puerto Rico

Chairman, WILLIAM M. HOWARD, University of Florida, Gainesville, Fla.

Region 9: Western New York (Oswego, Onondaga, Cortland, Tioga Counties and west); Western Pennsylvania (Fourth Federal Reserve District); and West Virginia

Chairman, JESSE BURKHEAD, Syracuse University, Syracuse, N.Y.

DEWITT C. DEARBORN, Carnegie Institute of Technology, Pittsburgh, Pa.
ROBERT JOHNSON, University of Buffalo, Buffalo, N.Y.

Region 10: Ohio, Michigan, Indiana, and Kentucky

Chairman, GILBERT W. COOKE, Bowling Green State University, Bowling Green, *Ohio*

FREDERICK AMLING, Miami University, Oxford, Ohio
SERGEI DOBROVOLSKY, Wayne University, Detroit, Mich.
ELVIN F. DONALDSON, The Ohio State University, Columbus, Ohio
ADOLPH GRUNEWALD, Michigan State University, East Lansing, Mich.
MERLE HOSTETLER, Federal Reserve Bank of Cleveland, Cleveland, Ohio
HIRAM JOME, DePauw University, Greencastle, Ind.
RALPH R. PICKETT, University of Kentucky, Lexington, Ky.

Region 11: Illinois and Wisconsin

Chairman, BION B. HOWARD, Northwestern University, Evanston, Ill.

FRANCIS J. CALKINS, Marquette University, Milwaukee, Wis.
ROBERT W. MAYER, University of Illinois, Urbana, Ill.
F. W. MUELLER, JR., De Paul University, 64 East Lake Street, Chicago, Ill.

Region 12: Alabama, Mississippi, Florida (west of Tallahassee), and Tennessee

Chairman, WILLIAM L. MILLER, Alabama Polytechnic Institute, Auburn, Ala.

Region 13: Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas

Chairman, WALTER W. HELLER, University of Minnesota, Minneapolis, Minn.

Region 14: Arkansas, Louisiana, Oklahoma, Texas, New Mexico, and Arizona

Chairman, LEWIS E. DAVIDS, SR., Agricultural and Mechanical College of Texas, College Station, Texas

JAMES M. MURPHY, University of Oklahoma, Norman, Okla.

Region 15: Montana, Wyoming, Colorado, Idaho, and Utah

Chairman, FRED R. NIEHAUS, University of Colorado, Boulder, Colo.

EDMOND L. ESCOLES, University of Wyoming, Laramie, Wyo.
DAVID L. MOSCONI, University of Denver, Denver, Colo.
ROLAND STUCKI, University of Utah, Salt Lake City, Utah

Region 16: Washington, Oregon, and Alaska

Chairman, WESLEY C. BALLAINE, University of Oregon, Eugene, Ore.

KERMIT O. HANSON, University of Washington, Seattle, Wash.
F. S. MCWILLIAMS, Fidelity Savings and Loan Association, 520 West Riverside, Spokane, Wash.
H. M. PHILLIPS, First National Bank, Portland, Ore.
L. B. STRICKLER, Oregon State College, Corvallis, Ore.

Region 17: California, Nevada, and Hawaii

Chairman, R. E. ROWTON, 534 West Sixth Street, Los Angeles, Calif.

D. A. ALHADEFF, University of California, Berkeley, Calif.
FRED E. CASE, University of California, Los Angeles, Calif.
T. L. GRAHAM, Ramo-Wooldridge Corporation, Los Angeles, Calif.
J. P. SHELTON, The Claremont Graduate School, Claremont, Calif.
K. L. TREFFTZS, University of Southern California, Los Angeles, Calif.
CLAUDE WALKER, University of Hawaii, Honolulu, T.H.

Region 18: Quebec, New Brunswick, Nova Scotia, Newfoundland, and Labrador

Chairman, W. S. BUSH, Du Pont Company of Canada (1956) Ltd., P.O. Box 660, Montreal, Quebec

Region 19: Ontario

Chairman, F. J. WESTCOTT, Harris & Partners, Ltd., Toronto

Region 20: Manitoba and Saskatchewan

Chairman, RALPH F. HARRIS, University of Manitoba, Winnipeg, Manitoba

Region 21: Alberta and British Columbia

Chairman, L. G. J. WONG, University of British Columbia, Vancouver, British Columbia

BOOK REVIEWS

Business Finance

SEC Accounting Practice and Procedure. By LOUIS H. RAPPAPORT. New York: Ronald, 1956. Pp. xii+555. $15.00.

Anyone who has recently experienced, or who in the near future plans to experience, the pangs of registering a public issue, will find this book enlightening and useful. The preparation of a registration statement is a highly technical process calling for the work of many allied specialists. Some lawyers are convinced that it is their special province; top management usually believes that the burden of directing the collection of facts and figures falls on them; underwriters, feeling that they bear the bulk of the tedious burdens, may confide that they are the ones really responsible.

The finished registration statement does represent a blending of many skills, and it is the purpose of this book "to show how the work of the independent accountant ties in with that of the other experts, how the accountant can serve to the greatest advantage, and why it is important for him to review the entire registration statement, the timetable, the underwriting agreement, and the indenture, if any."

The book is well written and well organized and belongs on the reference shelf along with *Securities Regulation* by Louis Loss (reviewed in the *Journal of Finance*, December, 1952). The author, a CPA with a leading firm, who has specialized in the SEC aspects of accounting for twenty years, draws on his wealth of experience as well as all the regulations, decisions, reports, releases, pronouncements, testimonies, and public speeches of SEC personnel. In addition, he has reviewed the literature carefully and includes an excellent bibliography in the Appendix.

The independent public accountant or the independent certified accountant is called upon to certify substantially all the financial data which constitute an important part of the registration statement under the Securities Act. Six chapters are devoted specifically to procedures under this Act with particular emphasis on the role and responsibility of the independent accountant. In one of the longest chapters in the book (chap. 15) the author discusses the accountant's certificate, while in chapter 16 he examines the concept of the independence of the accountant. Strangely enough only eleven pages (chap. 17) are devoted to the liability of accountants.

Under the Securities Exchange Act of 1934, the accountant is required to certify not only the financial data in the registration statement, but also the financial statement in the annual reports, the proxy statements, and other reports. He may also be required to certify the financial statements of certain brokers and dealers who extend credit to the public. The report forms and regulations under this act are described in four chapters.

Separate chapters discuss the pro forma financial statements (chap. 13), listing procedure (chap. 18), and reports to stockholders (chap. 19).

This highly technical book brings together for the first time in a single source

the SEC regulations and rulings which have a direct bearing on accounting and auditing practices. Its usefulness is increased by the inclusion of many forms and a good index. In addition to meeting the needs of accountants and lawyers, it should be required reading for the teacher of finance who is seeking to train financial administrators for future top-management positions or who serves as consultant to companies which might some day plan "to go public."

KENNETH L. TREFFTZS

University of Southern California

Financial Policies of Business Enterprise. By W. BAYARD TAYLOR with the collaboration of FRANK M. GRANER. 2d ed.; New York: Appleton-Century-Crofts, 1956. Pp. xix+684. $6.00.

Professor Taylor's second edition of an earlier work is a well-written, easily understandable, and comprehensive text of thirty-three chapters with an accompanying bibliography of texts and collateral reading. Readers of the book will be enthusiastic or not as they agree or disagree with the author's approach to his subject.

All can subscribe to the premise that "policies are principles in practice." But there will be a division of opinion over the author's "principle approach" rather than the "problem approach," and particularly his conviction that students can be taught to think more by "a resort to principles, generalizations, and theories than by problems."

Following his thesis, the text is written "to explain more than to describe, to stress principles more than examples, to minimize and even omit the obviously transient and the purely expedient." Thus "accelerated depreciation and loss carry-overs and carry-backs are experimental aberrations that receive slight, if any, attention." There is little reference to illustrative cases and no problems for the student to consider and ponder over. A general approach such as this, emphasizing the historical and philosophical, is more appropriate to a course given students in a liberal arts program or to those whose only contact with the subject will be this course.

This text is divided into nine sections for the most part following the conventional topical approach. Part I includes the evolution of the business forms usually treated with the addition of the co-operative form of organization. In Part II the procedure incidental to incorporation is examined and the rights, duties, and powers of stockholders, directors, and officers discussed. Part III treats of corporate securities, followed by the management of fixed capital in Part IV. Working capital and income comprise Part V.

In Part VI the author deviates from the traditional with the introduction of three chapters usually left to courses in accounting or omitted entirely from the student's instruction. His chapters on financial statements, ratios, and business reports are well thought out and quite properly a part of this book. These are the tools without which the principles will be but imperfectly understood and applied. However, the possibility of attaining this objective within the short space of three chapters can be controverted. The superficial treatment of ratios can be of more harm than good and the discussion of ratios here is, at best, superficial. The current ratio is but half explained (and I am afraid that the author has made

some erroneous statements in his explanation), and the result is somewhat less than desirable. Nor are the limitations of other ratios stated as well as they might be for a full explanation.

Part VII contains two excellent chapters on valuation and capitalization, followed in Part VIII by equally good discussions of underwriting and the organized securities markets. The last section of the book covers expansion, failure, and reorganization. The coupling of expansion with failure seems unfortunate particularly in an era of expansion. Certainly it has nothing in common pedagogically speaking with failure. The juxtaposition of the one with the other might indicate to a student something the author certainly never intended.

HARRY M. KELLY

New York University

Consumer Finance

Personal Finance. By ELVIN F. DONALDSON. 2d ed.; New York: Ronald, 1956. Pp. xiv+584. $6.00.

This new edition is welcomed both by those who are familiar with the 1948 edition and by many new users, as the book has been thoroughly brought up to date and strengthened. It is simple without being superficial. It is practical without losing sight of its primary purpose of education; it gives the reader insights to lead him in the right direction and does not merely give him prescriptions to follow. Its outstanding merit lies in three chapters on the home-owning, financing, and real estate law, and eight chapters on securities, including United States securities. These are clear and concise with a wealth of useful information which cannot be obtained elsewhere without more extensive study.

The topics covered are quite standard, and most of the chapters have many points to recommend them. However, the arrangement of chapters seems illogical. The author states on the first page of chapter 1: "Our principal interest will be in the answers to two questions . . . 'How can I best save my money?' and 'What is the best investment for my money?' " Yet, there is no discussion of savings or investment until chapter 8—some 149 pages later. Chapter 1 is vague and poorly unified. Chapters 2 and 3, while excellent in content, seem like a negative approach to the avowed purpose of the book because of their position. Chapter 4, "Living within Your Income," needs more substance and vitality. For example, reference to the income and expenditure studies recently made by the *Wall Street Journal* or Fortune's "The Changing American Market" would enrich it. The title to chapters 22 and 23, "Speculation in Stocks," is somewhat misleading, as much of the information presented on buying and selling stock could not be considered speculation.

The clarity with which the author explains the real rate of interest on instalment purchases, true costs of owning a home, the meaning of price quotations on bonds, price-earnings ratios, stop orders, pyramiding in marginal trading, short sales, dollar averaging, and the importance from the standpoint of inflation of the constant redemption value of U.S. Series E bonds, are only a few examples of his excellent explanations. However, he uses such terms as liquidity, yield, compound interest, "hedge against inflation," and "insurable interest" without defining them, even though he assumes that his readers have no background in finance.

The questions at the end of each chapter enable the reader to determine whether he has mastered the essential points, and the problems challenge him to make practical application of this information. The frequent use of list summaries, such as the advantages and disadvantages of annuities and tips for avoiding inferior investments, also facilitate the learning process. A few selected references with commentaries at the end of each chapter would more effectively kindle interest in the wealth of excellent pamphlets, periodical literature, and books pertaining to personal finance than the long list of references which appears at the back of the book. Sources of information are discussed only in connection with investments.

No prerequisites are needed for a course using this text. Nevertheless, the book is worthwhile reading for those who are advanced in the field, for it is the work of an authority and brings together a comprehensive body of information on personal finance.

HELEN C. POTTER

Loyola University, Chicago

Insurance

Insurance and Economic Theory. By IRVING PFEFFER. Homewood, Ill.: Irwin, 1956. Pp. xvii+213. $4.00.

This book is small in size, but it develops numerous propositions. Primarily, Dr. Pfeffer has attempted to reconstruct "the foundations upon which a valid theory of insurance economics must be built," drawing insurance from its institutional setting and analyzing its role in various microeconomic theories. This requires the explanation of underlying concepts rooted in philosophy, psychology. and mathematics. Thus the reading is slow, but the investigation of each exposition, if not too thorough, is sufficiently exploratory.

The material division denotes the logic of the approach. The book is in two sections—Part I, containing five chapters, and Part II, containing seven. Rejecting the institutional and technical concepts of insurance as inappropriate for economic analysis, the author devotes Part I to developing a generic concept of insurance, utilizing only issues which are "formally necessary and sufficient."

In Part I he illustrates the four major types of all definitions and reviews the legal, historical, economic, governmental, and contemporary concepts of insurance. Then he devotes a chapter to the function of probability and uncertainty in the insurance mechanism, distinguishing between risk and uncertainty. This chapter is backed by a more detailed Appendix explaining Hume's problem of accepting the probable as truth, Kant's apriorist approach to a solution, the logical positivist skeptical approach, and the relativist approach of Reichenbach. This Appendix further discusses attempts at assigning values to probability as a means of arriving at a measure of truth, explaining the classical, Keynesian, and relative frequency interpretations, and the use of the laws of large numbers as a method of the contemporary sampling technique.

From the varied concepts of the term, the author draws a definition more applicable to economic analysis, "in terms of the conditions which separate the insurance device from several closely related mechanisms"—"Insurance is a device for the reduction of the uncertainty of one party called the insured, through the transfer of particular risks to another party, called the insurer, who offers a restoration, at least in part, of economic losses suffered by the insured."

Part II applies this definition to microeconomic theories. First the author explains the temporal aspects of the insurance function, examining the problem of "statics and dynamics" and illustrating comparative statics, Clark's static state, Marshall's stationary state, the classical stationary state, and the problems involved in dating variables, and arrives at time as a planning period with insurance serving as a "guarantor of time," reducing uncertainty in planning functions. Next he looks at expectations and uncertainty and shows that all views on the subjects are founded on a belief that "decreases in the degree of uncertainty, however caused, may be construed as reductions in the risk coefficients of individuals' expectations with a consequent reduction of deterrents to action." Insurance as an uncertainty reducing device stimulates action. Finally he fits insurance into the theories of production, distribution, and consumer's preference.

The wide scope of this volume would seem to militate against its use as a text for students of insurance fundamentals. However, its interdisciplinary approach, combining insurance, economics, philosophy, psychology, and mathematics make it an interesting reference book and an invaluable source for advanced studies in insurance economics.

WILLIAM C. GREENOUGH

New York City

International Finance

Sterling-Dollar Diplomacy: Anglo-American Collaboration in the Reconstruction of Multilateral Trade. By RICHARD N. GARDNER. New York: Oxford University Press, 1956. Pp. xxii+423. $6.75.

This book, written by a member of the New York Bar, tells objectively the story of the efforts of the United States and Great Britain to establish after World War II an international economic system that would encourage world trade.

The evolution of international trade policy is traced from its genesis in the minds of American postwar planners in the State and Treasury Departments and in the Board of Economic Warfare, through the establishment of the Bretton Woods institutions, to the eventual decline and failure of the entire concept.

Four sections make up the book: (1) "The Objective of Multilateralism," (2) "Planning for Multilateralism," (3) "Transition to Multilateralism," and (4) "Multilateralism in Practice." (It is well to explain here that "multilateralism" describes a system of international trade in which barriers to trade and international payments are reduced to moderate levels and are non-discriminatory in application. It does not mean "free trade.") Each section sets forth the problem being discussed, the competing plans for solving the problem, the differing views of the United States and Britain and the resulting compromises.

Part I shows the development of the idea of "multilateralism" in the United States and its rather sceptical reception in official Britain. The second section describes the step-by-step planning toward a more liberal system of international trade which culminated in the Bretton Woods Conference, establishment of the International Monetary Fund and the International Bank for Reconstruction and Development, and construction of groundwork for parallel organizations and agreements: the International Trade Organization, the Anglo-American Finan-

cial Agreement, and the General Agreement on Tariffs and Trade. The last portion of the book explains the fate of the attempt to obtain international economic co-operation. The final chapter headings tell the depressing story: "The End of Bretton Woods," "The End of the Loan," and "The End of I.T.O."

Failure of the objective is attributed to: (1) an unfortunate world political climate, particularly the intransigence of the Soviet Union; and (2) the erroneous beliefs or assumptions held by the negotiators that (*a*) economic policy could be made in a vacuum, (*b*) the postwar order could be created without special arrangements between nations, i.e., alliances, and (*c*) human problems could be solved by writen codes and principles. One final point made in the concluding chapter is perhaps more important in explaining the failure than any of those just mentioned: without sympathy and understanding for the viewpoints and difficulty of others on the part of all participants, no institution can be made to work. This situation of understanding did not exist on either side of the Atlantic. As a result controversies were permitted to inflame public opinion so that politicians were pushed into inflexible positions that prevented international cooperation.

Sterling-Dollar Diplomacy will undoubtedly be a standard authority on the subject for some time to come. It integrates material already well known, but heretofore discussed in piecemeal fashion, into a logical and interesting story. And it adds, from private papers of some of the negotiating participants, new information that illuminates many points previously obscure. The excellent table of contents and index will enhance its value as a reference work. Also each chapter contains a helpful concluding summary paragraph that will be useful to the reader seeking a specific topic.

It is petty criticism of such an excellent book to question terminology, but one cannot avoid wondering whether the ideas might not be more influential if clothed in some less pedantic term than the often appearing "multilateralism" and if the word "co-operation" had been used instead of "collaboration," which has unfavorable connotations in Western minds today.

JOHN A. GRISWOLD

Dartmouth College

Latin America: Development Programming and United States Investments. By CLEMENT G. MOTTEN, VIRGIL SALERA, RICHARD L. DAVIES, and H. W. BALGOOYEN. Philadelphia: University of Pennsylvania Press, 1956. Pp. viii+70. $2.50.

This volume consists of four papers presented at the second annual meeting of the Northeastern Council for Latin American Studies held at the University of Pennsylvania in November, 1955.

In his essay on the historical background Professor Motten stresses United States interests in Latin America after World War I. In the second paper Dr. Salera claims that not enough attention has been paid to the role of private initiative and the free economy. The development of economic individualism awaits extensive government reforms to reduce uncertainties and delays that increase the burdens of private enterprise. Dr. Salera is not disturbed by the relatively regressive character of the Latin-American tax system, since luxury imports are already heavily taxed, and a more progressive system would discourage capital formation. It is suggested that promotional tax credits might be utilized to stimulate investment.

Mr. Davies sets up an unnecessarily laborious set of classifications as the vehicle for a case history of the Latin-American operations of the Pennsalt International Corporation. Mr. Balgooyen is outspoken against any notion about American collective responsibility to invest abroad. He states that "we must be vigilant in combatting the constant propaganda for new financing agencies such as the proposed SUNFED, whose proponents hope to use the taxpayers' money to set up a world-wide give-away agency" (p. 54). Mr. Balgooyen is simply interested in an opportunity for private business to operate with the minimum of government interference.

It is not to be expected that papers presented at such an occasion should be highly original. Nevertheless, the Council is right to publish them for the benefit of the general reader.

FINN B. JENSEN

Lehigh University

Monetary Policy in Continental Western Europe, 1944–1952. By STEPHEN F. SHERWIN. Madison, Wisconsin: University of Wisconsin, 1956. Pp. iv+311. $1.15 (paper).

This comparative study of monetary policies in six European countries (France, Italy, Western Germany, Belgium, Holland, and Denmark) is a doctoral thesis written under the direction of Professor Walter Morton of the University of Wisconsin. Dr. Sherwin gathered some of his material from interviews obtained during a seven-month visit to Europe in 1954 and the rest from articles and bank reports. The value of the study lies not in new information but rather in the economic analysis of the monetary developments in the six countries over nine years, in the comparisons made, and in the conclusions drawn.

Dr. Sherwin makes abundant use of the equation of exchange and the cash-balance equation. In describing policies and judging them, he repeatedly distinguishes between open and repressed inflation, inflation from deficit financing and from credit expansion, qualitative and quantitative controls, structural and cyclical unemployment, hard money and easy credit programs, and balance of payments equilibrium and disequilibrium. These terms indicate the type of economic tools he is using.

The study is divided into four parts: first, the currency reforms undertaken at the war's end in each of the six nations; second, the continued fight against inflation, 1945–47; third, handling the recession which took place in four nations; and fourth, the fight against renewed inflationary pressures after the Korean war began. The study is well organized, with introductory and summary sections wherever they can be of help. There are many helpful tables too. Only an index is conspicuously lacking. Yet despite excellent organization, the book is not easy reading, for it is highly factual and analytical and one must jump about from one country to the next in each of four time periods.

Of the six nations studied, Belgium, Holland, and Western Germany employed the most drastic measures to halt their wartime inflations. Holland relied in part on an intricate system of direct controls. Denmark and France were much influenced by Keynesian economics and emphasized full employment and investment rather than price stability. Italy, most clearly of all, put politics ahead of economics and suffered a hyper-inflation. In the postwar period all but France and Italy kept the price level from rising more than 35 per cent before 1952.

Prices went up another 230 per cent in France and 650 per cent in Italy where central bankers, politicians, and economists for a while chose one rationalization after another rather than take the disagreeable steps needed to keep prices under control. In each nation there was a contest between a "free enterprise" group and a "planning" group, with inflation usually worse where the latter won out.

Among the more salient conclusions cited by Dr. Sherwin from his study are the following: "Inflation is, therefore like malaria, the resistance to which varies inversely with the severity and number of times a person has contracted the disease" (France, Italy, and Germany were most sensitive to it). "There is no escaping the economic law that capital formation can be accomplished only through savings." If these are not voluntary, they will be forced out and inflation ensues. "Qualitative controls are . . . unsuited for a free enterprise economy" —they can be too easily circumvented. "There is . . . reason to believe that under the proper leadership a Central Bank can be more 'independent' after nationalization than before," for men are more courageous when their jobs are at stake than when their institutions are. "Monetary policy can stop inflation without producing a recession" unless it is a hyper-inflation. "That deficits are synonymous with inflation . . . is fallacious." And finally, "The influence of what is generally referred to as Keynesianism is waning. Immediately after the war, the cheap money and guaranteed full employment policies were wholeheartedly accepted by all left of center parties. Today these policies are again rejected by all center and right wing parties, and no longer endorsed even by left wing parties, with the exception of the Communists. . . . There is a general realization . . . that long run economic growth . . . is dependent upon voluntary savings, for which a climate of 'financial confidence' is an essential prerequisite" (p. 299). Dr. Sherwin has made a valuable study and his conclusions are convincing.

DONALD L. KEMMERER

University of Illinois

Investments

The Pattern of Financial Asset Ownership: Wisconsin Individuals, 1949. By THOMAS R. ATKINSON. Princeton, N.J.: Princeton University Press, 1956. Pp. xviii+176. $3.75.

Analysis of the processes of saving and investment will profit substantially from this scholarly study of Wisconsin income tax returns. Every student who investigates problems of the flow of saving into investment will wish to examine this work and use its results in connection with other available materials.

Information concerning asset holdings of individuals in Wisconsin is available as a result of the provision that tax returns must contain an itemization of all interest and dividend income. There is no reason to doubt that these Wisconsin data give a fair picture of the situation in the United States as a whole with respect to some of the major matters considered. However, with respect to details it would seem that Atkinson has been unduly sanguine about the adequacy of this geographically limited sample when he says that "the geographic restriction is probably no more than a minor difficulty in a cross-section survey." Though one may sympathize with the idea that we have sometimes strained at the gnat of sampling error while swallowing the camel of response error, we should not delude ourselves by supposing that this type of data supplies a very good national

sample. We should simply treat this as one bit of valuable information to fit in with other information as it becomes available.

The primary purpose of this study was to provide insight into "the ability of the economy to generate funds for equity as distinct from debt investment." It undertook to determine for the state of Wisconsin the relation between income and type of financial assets held. The study found that the lower income groups were the major suppliers of funds in debt form while the upper income groups were the major suppliers of corporate equity funds.

Atkinson has compared his findings regarding the relation of income to type of financial assets held with those of Butters and associates.[1] The latter had found corporate stocks to be "a declining proportion of total assets for successively higher income groups." Since, as Butters recognized, he was dealing with an extremely biased sample, it is good to have these more representative tabulations even though they do come from a sample which also leaves much to be desired.

One of the most interesting findings of the Atkinson study is the very low holdings by high income and high wealth groups of time deposits and related claims. In Wisconsin in 1949, individuals with financial assets of $1 million or more had only $900,000 of time deposits and related claims out of total financial assets of $281 million. Individuals with income of $50,000 and over had time deposits and related claims of $4.2 million out of total asests of $426 million. As Atkinson warns us, the gross underreporting of time deposits and related claims may be so distributed among the population as to affect seriously the reliability of the data. However, the material presented here does give increased support to the idea that the higher income groups depend relatively little on the intermediary financial institutions as a means of channeling their savings into investment.

Atkinson found that preferred stock was a larger portion of the holdings of lower- than of higher-income groups; lower-income groups had a larger proportion of their traded stock portfolios in public utility, investment trust, and oil and gas stocks than did higher-income groups; lower-income groups had somewhat higher quality stocks, but, when income is held constant, the individuals with small amounts of stock had somewhat more risky stocks; the higher the income and the higher the size of traded stock holdings, the larger was the average number of issues held; and higher-income groups tended to hold shares for longer periods of time than did lower-income groups. The study finds little support for the belief that higher-income groups invest in low-yielding stocks in order to obtain the tax advantage of capital gains.

HOMER JONES

Washington, D.C.

The History of Savings and Loan Associations of Wisconsin. By ROBERT C. EARNEST. Milwaukee: Wisconsin Savings and Loan League, 1956. Pp. x+216. $5.00.

This volume follows by only two years Andersen's *A Century of Banking in Wisconsin* and is another step toward completing Wisconsin's financial history.

1. J. Keith Butters, Lawrence E. Thompson, and Lynn L. Bollinger, *Effects of Taxation: Investments by Individuals* (Harvard University, 1953).

In addition, it is in a sense a pioneer in savings and loan history on a state basis. For the predepression period, the author expands on Burne Pollock's chapter on Wisconsin in Bodfish's *History of Building and Loan in the United States.*

The period of the thirties, however, brings the author into virgin territory. Partly because guideposts left by contemporaries are missing, but more because this was a period of intense conflict in Wisconsin, any researcher must rely heavily upon unrecorded sources—and these are rapidly disappearing as death takes its toll. The author relies on ephemeral newspaper sources and as a result does not get at the "logic" of the conflict. It would have been more productive to have set forth the individual (and conflicting) analyses of the antagonists. There are indications that the author mined a small amount of this rich vein.

The length of this review forbids detailed presentation of the misleading involved in statements that there were "extravagances" (p. 51) and the situation in the thirties was "alarming" (p. 53), or that "profiteering" existed (p. 54) because open market quotations (not always prices) dropped below par, or that Wisconsin's associations were in a situation "more serious than in most other states" (p. 49). No adequate evidence is given for such conclusions; adequate evidence to the contrary exists. For example, of the total of 53 Wisconsin associations liquidated out of a 1934 total of 183, median pay-out was over $100 on each $100 par share.[1] In Chicago, for example, that pay-out would average $50, with a higher percentage of associations liquidated. Slower liquidation (of which the author complains, p. 61) is not all vice.

Much of the author's analysis of the thirties is colored by a feeling that savings and loans should maintain a respectable percentage of assets in cash and governments. While he formally recognizes long-term home mortgages as *the* business of a savings and loan, the author complains (e.g., p. 50) that in 1930 cash stood at only 1 per cent of total assets (although it stood there all through the twenties). In a savings and loan, low cash in good times usually shows quick conversion to earning assets and in bad times distribution of cash to shareholders as fast as investments are liquidated. A savings and loan is not a bank, and a 10 per cent cash reserve does not materially improve the situation except for the first 10 per cent of shareholders to withdraw. An investor in a savings and loan has little more reason (or right) to expect that his market value will hold up through a depression than the lender on real estate has. His main gain is in averaging losses.

The author does not bring these matters into the open, but the liquidity proposition pervades the book. However, there is no detailed examination of ratio of loans to appraised value. If liquidity is desirable at the expense of some earnings, it is better achieved by reducing the average loan percentage (on the portfolio as well as new loans) as the business cycle rises. This was done by the associations that survived. The author fails to examine successful associations for contrast but adopts the hindsight remedy of the Home Loan Bank as a secondary market for mortgages.

The balance of the volume does not suffer from these difficulties and the fifty-three pages of statistical materials offer fertile ground for future workers.

ERWIN ESSER NEMMERS
University of Wisconsin

1. Computed from *Annual Reports of the Commissioner of Banking* (Madison, 1934–45).

Money and Banking

The Bank and Its Publics: Philosophy and Technique of Bank Public Relations. By ROBERT LINDQUIST. New York: Harper, 1956. Pp. xi+298. $5.00.

This book provides the reader with a comprehensive summary of public relations practices of commercial banks. The term "public relations" is here used in its broadest sense to comprise selling and advertising as well as the manifold activities undertaken to win public good will. Personnel and stockholder relations are also discussed in early chapters to provide an adequate basis for a bank's public relations program.

"The ultimate objective of a bank's public relations program," says Mr. Lindquist, "is to build business and profits." This sentence summarizes straightforwardly the author's philosophy of public relations. But he recognizes that this objective is often attained best through indirection, and should always be pursued with dignity and good taste. Thus, discussing bank participation in community activities, he says:

"The emphasis must be on giving, not getting. The bank and its people must lose themselves in community leadership and service; they will find themselves in a favorable climate of public good will with a host of new friends and well-wishers."

The book is very well organized so that it will prove useful to the interested general reader, to every type of bank personnel, and for classroom use. It clearly reflects the author's thirty years of experience in bank advertising and public relations, and his teaching of the subject at professional banking schools.

Initial chapters are concerned with personnel, stockholder, and customer relations. There follow chapters on community relations, salesmanship, all-important advertising techniques, publicity and advertising budgets. There is a final chapter on the interbank and government relations.

While the subtitle refers to "technique," this is not a book for the specialist who seeks a detailed and fully documented description of the techniques of bank advertising, salesmanship, or other aspects of bank public relations. Its strength lies in the comprehensive survey it provides, rather than in the fulness with which any particular subject is treated. As a textbook, it should prove most suitable as an introductory survey, or as a companion volume to be used with specialized books devoted to particular techniques. To the professional reader, it will provide a check list that will enable him to catch up on any phase of the subject he may have overlooked or underemphasized.

A valuable Appendix provides a check list for the self-audit of a bank's over-all public relations program, prepared by the Financial Public Relations Association.

JULES I. BOGEN

New York University

Management Policies in American Banks: A Study Based on a Survey of the Federal and State Supervisory Agencies. By HOMER J. LIVINGSTON. New York: Harper, 1956. Pp. xii+146. $3.00.

This little book, written by the president of the First National Bank of Chicago and former president of the American Bankers Association, is one of the most

useful manuals on bank management that has ever come into the hands of this reviewer. It is based to a considerable extent on answers to questionnaires and on opinions expressed by state and national supervisory officials. It should be helpful to every banker and of considerable assistance to the teacher of banking seeking a practical guide on how banking should be conducted.

Although the volume contains only 128 pages of reading matter, it covers virtually every phase of banking, including the banker's first responsibility—the bank loan portfolio, the credit files, and a very useful chapter on the responsibilities of bank directors. It answers thoroughly the questions raised and also includes at the end of each chapter a list of suggested reading which in itself is extremely valuable. The book also contains a number of tables which can be brought up to date by the student of banking and thus enable him to obtain a quick statistical view of the banking situation in the country.

The most interesting section to this reviewer is chapter VII dealing with personnel training and successor management. Although a great deal has been done in recent years to train personnel and to prepare officers for leading positions, the following statement by one state banking authority still holds good for a number of banks: "My greatest disappointment has been my inability to persuade the managing officers and the directors that they should train competent young men to step into their shoes when the time comes. They will promise to admit that they should do it, but keep putting off the day to turn over some responsibility to the younger officers." Lack of proper management is also one of the reasons for the large number of mergers that have occurred in recent years.

In his first chapter dealing with the banker's first responsibility, the author correctly states that the main problem is the obligation to provide adequate credit to business men, consumers, and farmers of our nation. To the eight responsibilities enumerated by the author, this reviewer would like to add another, namely, to pay an adequate return on the savings of the people. The competition for savings between the commercial banks and other savings institutions has increased materially in recent years and this phase deserves some discussion.

The book has a good index. It cites the questionnaires sent to the national and state banking authorities and also lists the names of the supervisors of banks in all the states. It constitutes a valuable addition to the literature on banking.

M. NADLER

New York University

Public Finance

Treasury Control: The Co-ordination of Financial and Economic Policy in Great Britain. By SAMUEL H. BEER. New York: Oxford University Press, 1956. Pp. vii+138. $2.40.

One can read this delightful little book with interest and profit on a flight from Washington to Chicago and still enjoy a bit of conversation and scenery. It is a well-written non-technical essay describing the role of the Treasury as co-ordinator of financial and economic policy. It is not concerned with the technical aspects of revenue-raising and expenditures, and it deals with budgetary procedures and the history of financial policy only to illustrate the manner in which certain units of the Treasury have come to be the "center of economic co-ordination under

Britain's peculiar 'plural executive' structure and in the British version of the mixed economy and the welfare state."

The account begins with a brief description of the Treasury organization to give a setting to the operating units, old and new, which are concerned with economic controls and "the factors in the British Civil Service and constitution which give co-ordination in British administration its peculiar style."

A second chapter, "The Co-ordination of Financial Policy," explains such matters as the review of annual budget estimates; "prior approval" (Treasury approval of any variation in departmental activity that has a financial aspect)—the principal foundation of Treasury power; the power of "virement" (authorizing transfers between subheads or Service Votes); and the power of the executive to incur liabilities,—not already covered by an appropriation ("from the American point of view an even more remarkable power"). Against abuse of these powers stand the subtle safeguards of responsibility of ministers to Parliament for all official acts of their subordinates and the character of these subordinates.

Compared with the "massed ranks of accountants, statisticians and budget examiners" in the United States Bureau of the Budget, the author indicates that the officials of the British Supply divisions seem "amateur and few." "Amateur they are in the sense that most of them are members of the Administrative Class, lacking specialized training in economics, accountancy, public administration, and similar subjects and looking forward to a career which may well take them into other departments." They are few by our standards. The whole administrative hierarchy under the Permanent Secretary totals only about 1,500 of whom some 200 belong to the Administrative Class.

In chapter III, "The Co-ordination of Economic Policy," the author describes how the government assumed its increased responsibilities for economic stability, employment, productivity and economic progress (by nationalization in industry, tax and balance-of-payments policies, etc.) and how powers of control ought to and did become the concern of the Treasury. Through no "formal arrangements" the Treasury became a central co-ordinating agency intimately involved in policy-making.

The fourth and last chapter on "The Nature of the Treasury's Powers" elaborates the thesis that no formal machinery nor unifying directions would take the place of the common rooms and lunch tables of the clubs of Pall Mall.

This book is of particular interest to economists concerned with economic planning since it contrasts the British style of government management and control with the more mechanical "centralist's solution" which is so often proposed. The account leaves us with a feeling that if we must have a planned economy run by the government, it would be better to let an organization like the British Treasury do it; that the country would be better run, even under an independent plural executive system, if served by "amateurs" with the varied experience of the career men of the Admlnistrative Class, whose conduct, unharassed by petty regulations and politics, is subordinated to the standards of the profession and whose actions are the responsibility of ministers who may be overthrown or forced to resign. We must admit, however, that others would prefer a centralized "monocratic" bureaucacy of expert model-builders operating Mark IV or Mark X computers to evaluate quantitatively "all factors in the economy and the bearing of government activity upon them," using Keynesian equations to make the great network of decisions which an econometric approach would entail, in order to fit the economy into a pattern of their own conception.

Even this author would favor the guidance of the Keynesian theoretical framework.

JAMES WASHINGTON BELL

Northwestern University

Discharging Business Tax Liabilities. By HORACE J. DEPODWIN. New Brunswick, N.J.: Rutgers University Press, 1956. Pp. vii+167. $4.00.

Dr. DePodwin's aim in this book is to focus attention on the difficulties of business firms in meeting their tax liabilities, with especial reference to the demands on working capital necessitated by various tax programs. In many instances, the study shows the size of firms and the degree of competition in a particular industry are as much dependent upon the tax programs affecting the industry as upon any other factor. The relationship between the taxable act, the actual time and method of tax payment, and the subsequent receipt of revenue by firms from the sale of goods or services is discussed. Time lags and peculiarities of administration in existing tax programs, the author feels, have had a great influence on the capital needs of industry and far too little attention has been paid to this segment of public finance and taxation.

Federal excise and income taxes, with which the book is primarily concerned, are divided into three main categories for analysis. The first, "prepayment levies," includes material on spirituous beverage, tobacco and manufacturers' excises, which are paid, under requirement of law, prior to the action giving rise to the tax. The author recognizes that provisions of the 1954 Revenue Act could result in changes in this collection procedure. However, under the present system, he sees the stamp tax resting upon the intention to engage in a taxable activity. The consequences, of course, are that the firms in these industries have such tremendous sums tied up in prepaid taxes that many smaller or less well-capitalized firms are forced to combine or fail.

The other two categories used by the author are "short-term levies," i.e., those allowing less than three months for payment, and "long-term levies," those allowing over three months for payment.

After a definitive study of the integration of business firms into the federal tax structure and discussion of the importance of the required time of tax payment, a short chapter on legally required accounting methods follows. In the latter, the 1954 Revenue Act is commended for placing greater emphasis on the accrual method of accounting.

Chapters V, VI, and VII, which comprehensively cover the prepayment excises, are perhaps the strongest portion of the study. The historic maze of tax laws on spirituous beverages and tobacco are considered in detail. The last portion of the book deals with corporation income tax liabilities, drawing a comparison between operating ratios and tax requirements, and discussing the impact of income taxes upon working capital.

This work is a practical attempt to come to grips with a neglected segment of public finance and taxation. It is one of a great number of investigations which should be made to complete a thorough study of American taxation. Continuous investigation of the effects of taxation will do much to prevent the disintegration of American taxation programs into the unfortunate state to which they have fallen in many European countries.

This book will be of particular interest and use to teachers and students of advanced accounting, corporation, business and public finance. It will also be useful to investment bankers, tax accountants and lawyers, and to persons in the tobacco and spirituous beverage industries.

WILLIAM G. HEUSON

University of Miami

Real Estate Finance

Mortgage Lending: Fundamentals and Practices. By WILLIS R. BRYANT. New York: McGraw-Hill, 1956. Pp. xi+375. $6.75.

Though this volume deals largely with the financing of one to four family residences, the principles discussed are considered applicable to mortgage lending on all types of non-farm real estate. A succinct review is presented of mortgage lending during the past thirty years in which the development of improved practices is emphasized. The FHA insurance and VA guaranty programs receive careful attention and the former is credited with important contributions to methods of financing. Regulations of these agencies are reviewed and methods of dealing with them are described in some detail. The sources of funds for the mortgage market and lending policies of institutional investors are summarized. Developments in the capital market, including the real estate sector, are examined with attention to Federal Reserve policy during the postwar years.

Most of the book, however, is devoted to a consideration of procedures in handling the mortgage portfolio. The organization and control of lending operations, the loan application, the interview and credit analysis of the borrower, appraisal of the property, legal aspects, loan servicing, and the development of new business receive systematic treatment.

The book would have been improved by more careful editing. Some conflicting statements, inaccuracies, and repetitions managed to escape the editor. On page 45, line 25, it is stated that "very few insurance companies make construction loans" and later, on the same page, lines 38 to 40, the reader is told "loans made by life insurance companies are mostly in the following categories: . . . construction loans, or improvement loans. . . ." Twice on page 53, lines 3–5 and 22–24, is the statement that mortgage loans by a federal savings and loan association must be on property located within a radius of fifty miles of its office. In the discussion of liens (p. 96) the period for filing is described as sixty days for original contractors and thirty days for others, with no indication that the number of days is determined by state statute and varies from state to state.

The author, a lending officer of a commercial bank, handles the problems encountered by mortgage lenders with perspective and wisdom. The chapter on appraisal is excellent and includes a carefully prepared appraisal report. The analysis of the reasons for delinquency and the discussion of methods of handling delinquent loans show discrimination and insight in dealing with the problems of borrowers.

Among VA activities with a broad public aspect is the builder-lender program which permitted the builder to operate as a non-supervised leader. This is regarded as an unsound policy which reduced the flow of funds from institutional lenders and "tended to impair the stature of the VA loan" (p. 287).

The chief effects of the VA loan program are regarded as beneficial for the building industry, mortgage lenders, and the national economy. The evaluation, however, is mainly in terms of size of monthly payments, the rate of interest, methods of screening applicants, and percentage of loans in default. The inflationary aspects are recognized but there is no specific evaluation as to whether, on balance, the VA loan program has been helpful or harmful to the economy and to the veteran himself.

Mortgage Lending should appeal to all students of real estate finance as well as to those engaged in the industry or preparing to enter it. Many will regret that the author did not develop further his ideas concerning the indicated major needs of the mortgage lending industry which include, among others, the establishment of a central mortgage bank, the greater mobility of mortgage funds and the re-establishment of FNMA as a "standby" agency only.

RALPH R. PICKETT

University of Kentucky

The Mutual Mortgage Insurance Fund. By ERNEST M. FISHER and CHESTER RAPKIN. New York: Columbia University Press, 1956. Pp. xvi+162. $4.00.

The introduction in 1934 of a "revolutionary" approach to mortgage financing by the creation of the Federal Housing Administration and a loan insurance program has been viewed consistently with some skepticism about the ability of such a program to meet its objectives. Fisher and Rapkin have examined the adequacy of the insurance reserves and the capacity of the program to meet its obligations under varying assumptions with respect to future real estate market movements.

The early chapters of the study review basic legislation, operating experience, characteristics of insured mortgages in force, and the FHA method of calculating required reserves. Succeeding chapters evaluate the FHA method in terms of external and internal factors which should be considered in measuring future impacts on the program. Finally, the adequacy of the reserves is measured under varying assumed market conditions.

The conclusions of Fisher and Rapkin are reassuring with respect to the ability of the program to withstand the shock of collapsing real estate markets under conditions equal to those under the worst previous "depression" conditions. Their analyses are unusually authoritative in the light of the housing and actuarial experts who assisted in the study.

The study shows that the FHA mortgages have aged well, with low rates of foreclosure and infrequent need for lenders to take advantage of the insurance provisions. However, this favorable record has been achieved only in a rising market and the program has yet to be tested under adverse market conditions. In order to measure the strength of the program Fisher and Rapkin assumed a cyclical pattern typical of the last few decades, a depressed market comparable to the Great Depression of the 1930's, and a loss and foreclosure pattern typical of that occurring in previous years.

The greatest threat to the insurance program lies in the domination of the FHA program "by mortgages insured in the last five years, by those in which the outstanding balance represents moderate percentages of estimated current

value of the security and by those of modest original face amount." This threat is counteracted to a considerable degree not only by the reserves but by the ability of the FHA to pay off lenders at time of foreclosure with long-term debentures repayable over time. In this way the FHA need not sell foreclosed properties immediately but may wait for improving markets.

The study concludes that the "FHA calculation is based upon premises that should make adequate provision for contingencies of major depression magnitude." The chief recommendations are that a national market price index be created and that insurance premiums be prepaid to overcome the foreclosure risks associated with new mortgages.

This study is a worthwhile and workmanlike contribution to a growing body of real estate research. It provides a foundation on which can be built studies relating to equally important questions of where the federal government may provide other kinds of housing programs, whether private business should be encouraged to take over some of the programs now under FHA thus freeing it for other activities, what influence the FHA programs have on market trends, and whether the FHA might not search out other areas of risk-taking not possible for private business but in which programs are needed.

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Institutional Residential Mortgage Lending in Los Angeles County, 1946–51. By JAMES GILLIES and CLAYTON CURTIS. Los Angeles: University of California, 1956. Pp. xv+202 (paper).

This study was financed from funds "allocated by the California legislature for real estate education and research at the University of California." It follows the pattern of earlier studies financed by the Housing and Home Finance Agency.

First, it deals with the housing and mortgage markets in Los Angeles County. Next it examines in detail the mortgage lending volumes, policies, and practices of savings and loan associations, commercial banks, and life insurance companies. The closing chapters cover the impact of governmental programs upon the supply of mortgage funds; compare the Los Angeles market with other local mortgage markets; and present the major findings and conclusions of the study.

Since the postwar market for homes was a sellers' market, and since most purchasers were greatly dependent upon liberal financing arrangements, it follows that this period was also a lenders' market.

Savings and loan associations in Los Angeles County increased their proportion of all home loans of $20,000 or less from 28.9 per cent in 1946 to 47.2 per cent in 1951. Mortgage funds were derived from savings of investors, repayment of loans, loans from the Federal Home Loan Bank of the district, liquidation of government bonds, and sale of mortgages. Conventional loans predominated, with less use of FHA and GI mortgages.

At the beginning of the period studied, commercial banks advanced more funds for residential lending than did all other types of financial institutions. By the end of the period both life insurance companies and particularly savings and loan associations went well ahead of commercial banks in home mortgage lending. In 1946, banks made 61.2 per cent of home loans of $20,000 or less; by 1951,

the ratio was only 24.3 per cent. Banks varied in mortgage lending policies, ranging from liberal to ultraconservative. In general they made more liberal use of FHA and GI mortgages than did savings and loan associations.

In 1946, life insurance companies made 9.9 per cent of residential mortgage loans of $20,000 or less; by 1951, this percentage had increased to 28.5. Both branch offices and loan correspondents were used in originating these loans. Toward the end of the period studied, life insurance companies made considerable use of GI loan plans.

In spite of the fact that FHA and GI loans were less commonly used in Los Angeles County than in the rest of the country, the authors conclude that these agencies stimulated residential construction, particularly of the tract variety.

In conclusion, the authors compare mortgage lending in Los Angeles County with comparable practices in selected areas in other parts of the country. Here they point out the common trend toward institutionalization of mortgage lending; but they also emphasize continuing differences among localities. Because of the differences, the authors caution against hasty generalizations concerning the mortgage markets of the country.

Monographs of this kind will lead to a better understanding of mortgage financing in this country. The authors have made a worthwhile contribution to this end.

H. E. Hoagland

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BOOKS RECEIVED

ANDERSON, C. R., SAUNDERS, A. G., and WEEKS, F. W. *Business Reports: Investigation and Presentation.* 3d ed.; New York: McGraw-Hill, 1957. Pp. vii+407. $6.00.

In this third edition the text has been completely rewritten, the chapter on mechanics has been moved forward so that the student can study it before writing any reports, and new chapters have been added on getting the investigation started and on handling statistical data.

BACH, GEORGE L. *Economics: An Introduction to Analysis and Policy.* 2d ed.; Englewood Cliffs, N.J.: Prentice-Hall, 1957. Pp. xviii+846. $6.75.

In this new edition chapters and sections have been rearranged to bring public policy issues into immediate juxtaposition with theory, and special emphasis is given to economic growth and development.

BUSHAW, D. W., and CLOWER, R. W. *Introduction to Mathematical Economics.* Homewood, Ill.: Irwin, 1957. Pp. xii+345. $7.00.

The special purpose of this new book, written by an economist and a mathematician, is to provide for persons with limited training in mathematics an introductory account of mathematical methods of economic analysis.

CARNEY, JAMES J., JR. *Institutional Change and the Level of Employment: A Study of British Unemployment, 1918–1929.* Coral Gables, Fla.: University of Miami Press, 1956. Pp. vi+129.

The purpose of this study is to discover what lessons English experience may teach us in preparing for the eventuality of a deficiency in aggregate demand.

CHICAGO AIA AND REAL ESTATE BOARD. *Building Cost Manual.* New York: Wiley, 1957. Pp. ix+367. $15.00.

The wealth of authoritative data presented in this volume by the Joint Committee on Building Costs of the Chicago Chapter of the American Institute of Architects and the Chicago Real Estate Board should be of value to all those interested in real estate and the construction, financing, and ownership of buildings.

CLARK, JOHN MAURICE. *Economic Institutions and Human Welfare.* New York: Knopf, 1957. Pp. xii+285.

A dozen essays written by the author in the period 1940–55 are reprinted or adapted in this volume, which is primarily concerned with the development of a concept of workable freedom in a welfare state.

CONAN, A. R. *The Changing Pattern of International Investment in Selected Sterling Countries.* Princeton, N.J.: Princeton University Press, 1956. Pp. 20 (paper).

The pattern of international investment in the sterling area has altered markedly during the postwar years as a result of radical changes in the rate of absorption of capital in different sectors, significant alterations in the composition of international capital movements, and exploitation of new sources of capital supply.

DAVIS, KEITH. *Human Relations in Business.* New York: McGraw-Hill, 1957. Pp. xiv+557. $6.50.

Among the recent advances covered in this volume are: human relations training and executive development; the influence of organization structure on human relations; role-playing; group dynamics and participation; communication analysis; staff-line problems; human effects of automation; and human problems associated with wage incentives and with decentralization.

DILLAVOU, E. R., and HOWARD, C. G. *Principles of Business Law.* 6th ed.; Englewood Cliffs, N.J.: Prentice-Hall, 1957. Pp. xxvi+1,062. $7.50.

In this sixth edition the authors have had the collaboration of Professors P. C. Roberts and W. J. Robert. More than 150 new cases have been inserted and new sections have been added on labor law, trade regulations, security transactions, appellate court procedure, how to find the law, and how to study a case.

DUNPHY, LORETTA M. *Simon Newcomb: His Contribution to Economic Thought.* Washington, D.C.: Catholic University of America Press, 1957. Pp. viii+32. $.50 (paper).

A dissertation on the contributions of a relatively unknown American economist, whose treatise (1885) has been regarded as probably the best work of the "principles type" in the period between John Stuart Mill and Alfred Marshall, is summarized in this booklet.

FOX, WILLIAM M. (ed.). *Readings in Personnel Management.* New York: Holt, 1957. Pp. viii+117. $1.50 (paper).

The purpose of the articles in the collection of readings from *Fortune* is to contribute to an understanding of the basic job of any supervisor or administrator: the selection, development, and effective utilization of people.

HANSEN, ALVIN H. *The American Economy.* New York: McGraw-Hill, 1957. Pp. xv+199. $5.00.

The progress of welfare statism in the United States is sketched in nine easy chapters by one of its foremost academic proponents.

HARPER, F. A. *Why Wages Rise.* Irvington-on-Hudson, N.Y.: Foundation for Economic Education, 1957. Pp. 124. $1.50 (paper).

The relations of unions, productivity, specialization, government, and various other factors to wages are clearly explained in this booklet.

HOUSEHOLD FINANCE CORPORATION MONEY MANAGEMENT INSTITUTE (ed.). *Money Management, Your Shelter Dollar.* Rev. ed.; Chicago: Household Finance Corp., 1957. Pp. 32. $.10 (paper).

The problems of how to manage shelter costs and how to judge value in renting, buying, and building are given special attention in this revised edition.

KEHOE, JOSEPH A. *Some Financial Trends of National and State Commercial Banks in Indiana, 1915–1954.* Washington, D.C.: Catholic University of America Press, 1956. Pp. xi+47. $.75 (paper).

This booklet, which summarizes a dissertation, is concerned with the reorientation of the primary business of commercial banks since 1935.

KELLER, I. WAYNE. *Management Accounting for Profit Control.* New York: McGraw-Hill, 1957. Pp. viii+435. $7.00.

An interrelated system of accounting, controlling, and reporting is presented in this volume. Greater emphasis is placed upon the requirements of management for control information, and the accountant's function as a member of the management team, than upon technical cost accounting and budgetary planning and control procedures.

KENNEDY, RALPH D., and MCMULLEN, STEWART Y. *Financial Statements: Form, Analysis, and Interpretation.* 3d ed.; Homewood, Ill.: Irwin, 1957. Pp. xviii +633. $6.95. *Questions and Problems for Financial Statements: Form, Analysis, and Interpretation.* 3d ed.; Homewood, Ill.: Irwin, 1957. Pp. vii+ 290 (paper).

To improve organization, clarity, and completeness of presentation, extensive changes have been made throughout in the third edition of this standard college textbook. The number and variety of questions and problems in the supplementary manual have been substantially increased.

MEADE, JAMES E. *Negotiations for Benelux: An Annotated Chronicle, 1943–1956.* Princeton, N.J.: Princeton University Press, 1957. Pp. 89. $.25 (paper).

This account of the negotiations which took place among the Dutch, Belgian, and Luxembourg governments between 1943 and 1956 in their attempt to build the Benelux Economic Union makes clear the sort of problems and processes which are involved in building a full economic union among sovereign nations under modern economic conditions.

NATIONAL BUREAU OF ECONOMIC RESEARCH. *Suggestions for Research in the Economics of Pensions.* New York: National Bureau of Economic Research, 1957. Pp. xii+51. $1.00 (paper).

The establishment of OASI and related governmental provisions and the rapid development of private pension systems have opened up a new and important problem area. What appear to be the major questions and the more fruitful areas for further research in this area are suggested in this brief report of the National Bureau.

OHIO STATE UNIVERSITY BUREAU OF BUSINESS RESEARCH (ed.). *Proceedings of the Seventh Annual Fire and Casualty Conference.* Columbus, O.: Ohio State University, 1956. Pp. iv+70 (paper).

The addresses and discussions reported in this volume are concerned with the selling aspects of the insurance business.

PEACOCK, ALAN T., *et al.* (eds.). *International Economic Papers, No. 6.* New York: Macmillan, 1956. Pp. 211. $3.50 (boards).

Of the nine papers in this volume, at least four will be of special interest to students of finance: Schumpeter's "Money and the Social Product," Novozhilov's "On Choosing between Investments Projects," Larsen's "Developments in the Danish Money and Capital Markets, 1948–1953," and Arvidsson's "On the Reasons for a Rate of Interest."

PHILLIPS, E. BRYANT. *Consumer Economic Problems*. New York: Holt, 1957. Pp. viii+486. $4.75.

The purpose of this new textbook is to present a synthesis of materials which will meet the needs of students majoring in home economics, education and business education, and economics. The eighteen chapters are organized in three sections: Part I, "Consumer Demand; Part II, "The Consumer and the Market Place"; Part III, "The Consumer Interest in the Political Economy."

ROSENBLUTH, GIDEON. *Concentration in Canadian Manufacturing Industries*. Princeton: Princeton University Press, 1957. Pp. xv+152. $3.50.

The measurement techniques and findings of this study are of interest to all students concerned with concentration and monopoly, firm size, economies of scale, and other aspects of industrial structure. In chapter IV, which is devoted to a comparison of the United States and Canada, the author finds that industrial concentration is higher in the latter country.

STELSON, HUGH E. *Mathematics of Finance*. Princeton, N.J.: Van Nostrand, 1957. Pp. xii+327. $5.50.

The arrangement of this new textbook for college students is such that, if desired, a maximum of time may be devoted to applications without involving more than the minimum amount of theory. Some of the more difficult theoretical aspects of interest are placed in the Appendix, and the simple case for the annuity certain is presented as a complete unit before presenting the general case, part or all of which some teachers may wish to omit.

TAYLOR, GEORGE W., and PIERSON, FRANK C. (eds.). *New Concepts in Wage Determination*. New York: McGraw-Hill, 1957. Pp. xiii+336. $6.50.

The eleven original essays by twelve wage economists presented in this volume assess the present status of wage theory and explore new approaches.

TAYLOR, W. BAYARD, and GRANER, FRANK M. *An Outline to Accompany Financial Policies of Business Enterprise*. 2d ed.; New York: Appleton-Century-Crofts, 1957. Pp. vii+198. $2.50 (paper).

Each of the thirty-three chapters of this manual contains an outline of the subject matter, a list of self-test questions, and a set of problems.

TREFFTZS, KENNETH L., and HILLS, E. JUSTIN. *Mathematics of Business, Accounting, and Finance*. 2d ed.; New York: Harper, 1956. Pp. xii+591. $4.50.

Among the outstanding virtues of this standard textbook are its simplicity, clarity, and thoroughness in getting across to students, however sadly lacking in background they may be, a high degree of facility in fundamental arithmetic operations and a sound understanding of basic algebraic principles. The number

of problems has been increased sufficiently to permit the book to be used repeatedly without unnecessary duplication of assignments.

TROELSTRUP, ARCH W. *Consumer Problems and Personal Finance.* 2d ed.; New York: McGraw-Hill, 1957. Pp. xvii+511. $6.00.

In this new edition statistics have been brought up to date and new material has been provided on economic factors in marital adjustment as well as on recent changes in various sectors of the field of consumer economic problems.

TUTTLE, ALVA M. *Elementary Business and Economic Statistics.* New York: McGraw-Hill, 1957. Pp. xii+633. $6.75.

Techniques, rather than sampling and statistical inference, are emphasized in this new textbook for the beginning course usually required of business students in the Sophomore or Junior year. Since the most elementary steps in algebra and arithmetic are spelled out in detail, the text is suitable for students who lack secondary-school mathematics.

UMBREIT, M. H., HUNT, E. F., and KINTER, C. V. *Economics: An Introduction to Principles and Problems.* 3d ed.; New York: McGraw-Hill, 1957. Pp. xiv+637. $6.00.

In this new edition the treatments of price theory and of distribution are substantially reduced and simplified, retained material has been rewritten, and chapters have been added dealing with economic problems, the American economy, economic fluctuations and stabilization policies, and population, resources and technology.

UN DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS. *Yearbook of International Trade Statistics, 1955.* New York: United Nations, 1957. Pp. 720. $7.00 (paper).

Several summary tables and detailed commodity analyses for 104 countries are presented in this sixth issue of the *Yearbook.* The United States maintained its position as the world's greatest importer and exporter, followed by the United Kingdom and Western Germany.

UN DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS. *Statistical Yearbook, 1956.* New York: United Nations, 1957; distributed by Columbia University Press. Pp. 646. $7.50 (cloth); $6.00 (paper).

This eighth annual issue contains an increased number of series relating to the USSR and, for the first time in recent years, some series made available by the statistical authorities of Bulgaria, Hungary, and Poland.

WEILER, E. T., and MARTIN, W. H. *The American Economic System.* New York: Macmillan, 1957. Pp. xxv+623. $6.00.

Designed for the Sophomore student, this textbook for the beginning course in economics concentrates upon the main ideas, leaving for later courses the detailed examination of such topics as the theory of the firm, the factoral distribution of income, and specific taxes and expenditures.

CLYDE WILLIAM PHELPS

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